Sense of Coherence in Adolescents and Their Families in a Swedish Speaking Community in Finland

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Abstract

Health behaviours learned in adolescence set precedence for healthy habits that extend throughout the lifespan. During adolescence transitions take place that lay the foundations for health and wellbeing in adulthood. This study is underpinned by two frameworks: Antonovsky's theory of salutogenesis and Bronfenbrenner's ecological systems theory. Research evidence within the salutogenic paradigm suggests that both the strength of an individual's Sense of Coherence (SOC) and the Sense of Family Coherence (SOFC) are linked to positive health outcomes. This study aimed to explore how family life is associated with the development of SOC in adolescents. To achieve this a fully integrated longitudinal mixed method research design was employed. Data were collected through mixed method surveys in three waves and semi-structured family interviews using genograms and eco-maps as data collecting tools. The sample was purposively selected from one school and consisted of Swedish-speaking Finns: 65 adolescents, 89 parents and 56 families. Longitudinal data were generated from 18 families. The data were analysed using descriptive statistics, content analysis and thematic analysis.

The study findings add to the body of knowledge of the sparsely researched area of a collective SOC. Developmental processes of SOC were found to take place in several environments of development simultaneously, with each of these environments providing diverse contexts for complex non-linear and overlapping processes influencing social, physical and mental dimensions of wellbeing. It was however not the contexts of development that were the most crucial factors influencing SOC but rather the processes that took place within these contexts. The findings suggest a reciprocal relationship between SOFC and SOC, with a strong SOFC promoting the development of a strong SOC in adolescents. Individuals with strong SOC scores and families with strong SOFC scores voiced an understanding of beliefs, facts and values deemed important for health and wellbeing. They also demonstrated insight into what actions are needed and should therefore be taken when aiming to promote the health and wellbeing of adolescents. This study recommends that a salutogenic discourse of health should be implemented when planning and implementing policies and strategies aimed at promoting the health and wellbeing of adolescents and their families, leading to improved health and wellbeing.

Key words: Adolescent health and wellbeing, Family, Sense of Coherence, Sense of Family Coherence, Mixed methods, Finland

Table of Contents

List of tables

List of figures

List of appendices

Abbreviations

SOC	Sense of Coherence
SOFC	Sense of Family Coherence
GRR	Generalized Resistance Resources
CO	Comprehensibility
MA	Manageability
ME	Meaningfulness
PPCT	Process-Person-Context-Time
S	Strong
W	Weak

Reflections on the research journey

My interest in the health of adolescents and their families arose from working several years at Folkhälsan, in Helsinki Finland, as a nurse and family therapist in an outpatient clinic for adolescents and later as a researcher. Folkhälsan is a non-governmental organisation in the social welfare and health care sectors in Finland, which strives to promote health and quality of life in the Swedish-language regions of Finland. Folkhälsan's operations consist of health-promoting civic activity, service provision in the social welfare and health care sector and research concerning the Swedish-language speaking population.

During my time working at Folkhälsan I interacted with and cared for many adolescents diagnosed with eating disorders and/or depression. When working with these adolescents the focus was on fostering healthy dimensions of the individual and family while simultaneously caring for the ill family member. Some of these adolescents managed within a briefer time frame than others, to improve their health and return to everyday activities such as going to school, being with friends and participating in sports and hobbies. The shorter the disruption was in the life of the family of the adolescent the greater the benefits were for everyone. Students continued their education, parents did not need to take time off from work, shorter periods of care meant we could treat more patients and money was saved, however most important was that the adolescents in question improved their health which in the long run benefited both them and society. As I contemplated on the reasons for this swifter transit to better health for some I noticed that what the faster recovering adolescents had in common, were psychosocial health resources at their disposal. They seemed to have adaptability to life and the ability to look at their illness as a 'temporary setback' in a life that they otherwise considered quite meaningful and filled with functioning relationships. Furthermore it seemed that the majority of these adolescents had parents who possessed a positive outlook on life, who had a strong commitment to their family, even if the parents were divorced, and who believed the family to be vital in the recovery process of their child. This led me to speculate that families play an important role as a resource in the development of adolescent psychosocial health and I obtained the belief that an approach to clinical work, which focussed on health as a resource, could more effectively enable adolescents and their families to achieve better health and therefore improved quality of life.

Coincidentally at this time, our outpatient clinic had a visit from Folkhälsan's newly appointed head of research, Professor Bengt Lindström, whose own research interests were, amongst other things, Salutogenesis as well as the health of adolescents. Bengt introduced our group to Antonovsky's (1979) theory and research perspective, Salutogenesis. Not long

after this meeting I contacted Bengt for advice on planning my Master's thesis as I had decided to use Antonovsky's theory as a framework. Initially the Master's thesis was aimed at studying the Sense of Coherence in families with eating disorders or disordered eating. This focus however was changed due to the low incidence found in the sample. Our discussion ended with Bengt offering me a job on the team researching salutogenesis. This opportunity that I was given changed my life as it opened up doors to a fascinating world that was new to me. It also allowed me to get to know two very important people that came to change my life. These people are Monica Eriksson, who was my supervisor for my Master's thesis, and Mima Cattan who is my supervisor for this doctoral thesis. During the process of writing my Master's thesis I was offered the opportunity to commence doctoral studies whilst continuing to work for Folkhälsan. I started my doctoral studies at the Nordic School of Public Health in Gothenburg, Sweden. Unfortunately, not long after starting, the salutogenic research team at Folkhälsan was dismantled. This led me to transfer to Northumbria University to continue with my work there as my supervisor Professor Mima Cattan was employed at Northumbria University.

For me the research journey has been life changing. The paradox of growth is a humbling experience; the more knowledge I acquired and the more I grew as a human was in direct reverse relation to the amount of confidence I felt about the certainty of life, or the completion of my thesis. At the risk of sounding clichéd I would like say that during the process of writing this thesis I have *comprehended* what is *meaningful* in my life and become aware of the abundance of *resources* around me that help me *manage* the challenges that life throws at me. I have been working for the last three years at Arcada University of Applied Sciences as a Senior Lecturer in the Department of Health and Welfare. I teach courses in Evidence Based Care, Health Promotion, Salutogenesis, Ethics, and Research Methods for students taking Bachelor's and Master's degrees. I enjoy my work and feel that the circle has come full cycle with me now teaching the very subjects that inspired me and changed my life.

Acknowledgments

This thesis is dedicated to the two most important people in my life, my two beautiful daughters Carina and Milla. Always remember that your attitude is always a choice. Happiness starts within, so learn to love yourself *now*. Find your passion. Surrender to love. Look after yourself. Set boundaries. Remember that the little stuff matters. Most important of all is to never ever forget... I will love you forever, for always and no matter what.

To my supervisors, I would like to express my sincere gratitude to Professor Mima Cattan for the continuous support of my Ph.D study. Your guidance has helped me in all the time of research and writing of this thesis. I could not have imagined having a better supervisor and mentor for my Ph.D study. Thank you for not only helping me with my writing but for helping me become the person I became during the process. I have learnt so much from you and not only about research. Thank you for opening up both your mind and heart to me.

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I would also like to thank PhD Monica Eriksson. Unfortunate circumstances meant you were not as much part of this process as I would have liked you to be, but you have left your mark on me and I cherish that.

I am forever grateful to all of the families that sacrificed their time for this study and without whose participation this study would never have become reality.

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Last but not least, I would like to thank my husband Stewart. You have been part of my life for six years now and I can't imagine life without you. Without you I would probably have finished this thesis much quicker… but it would mean so much less to me. You have kept me grounded. Thank you for saying that you love me and that you are proud of me.

Declaration

I declare that the work contained in this thesis has not been submitted for any other award and that it is all my own work. I also confirm that this work fully acknowledges opinions, ideas and contributions from the work of others.

Any ethical clearance for the research presented in this thesis has been approved. Approval has been sought and granted by the City of Espoo's Department of Education on March 19th 2009.

I declare that the Word Count of this Thesis is 78,592 words

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Chapter One – Introduction

1.1 Introduction

This study aimed to explore the Sense of Coherence (SOC) in a sample of Swedish-speaking Finnish adolescents and their parents, as well as explore the Sense of Coherence found in the family (SOFC). It also aimed to explore how family life, as a health-promoting context, is associated with the development of Sense of Coherence in adolescents. Sense of Coherence can be comprehended as an individual's ability to understand their situation in life and have the capacity to assess and use resources available to them that will facilitate the promotion of health (Antonovsky, 1979; 1987). This chapter introduces the background to the research topic, a brief introduction of theoretical underpinnings, the research context, as well as the aims and research questions and demarcation of the research area. This chapter ends with an outline of the thesis.

1.2 Background to research topic

It has been suggested that health behaviours learned in adolescence set precedence for healthy habits that extend throughout the lifespan (Tinsley, 2003; Viner & McFarlane, 2005; Rew, 2005; Davies *et al.,* 2009; Schaffer & Kipp, 2010; Viner *et al.,* 2012), and even into the next generation (WHO, 2014a). Therefore good adolescent health and learned health behaviours can be perceived as being crucial to the health of whole population, affecting social and economic development in nations (Sawyer *et al.,* 2012; Viner *et al.,* 2012). The relationship between the health of an individual and the health of the population is intrinsically entwined. The health of the collective population is referred to as public health and defined by the Faculty of Public Health (2010) as:

> *'The science and art of promoting and protecting health and well-being, preventing ill-health and prolonging life through the organised efforts of society.'*

For a long time public health research and interventions have focused on the needs of children, as the investment in early childhood development has been perceived as a means of promoting lifelong health and wellbeing (AMCHP, 2010). Decades of research within child health have contributed to the growth of child public health and resulted in improvements in child health. However, improvements made in childhood mortality and morbidity have not been matched in adolescence (Sawyer *et al.,* 2012; Viner *et al.,* 2012). Recently there has been an increase, within public health agendas, on the focus of the adolescent phase of the life-course (Sawyer *et al.,* 2012), which coincides with an increase on adolescent public health research focusing on positive healthy youth development (Lerner, 2005; Birkhead *et al.,* 2006; McNeely &

Blanchard, 2009; CDC, 2009; Harper Browne, 2014). There is empirical evidence supporting the use of positive health promoting youth development approaches when designing and implementing adolescent health policies and programmes (Bernat & Resnik, 2006; Currie *et al.,* 2012).

Health promotion has been recognized as an important feature of public health and health development. The Ottawa Charter for Health Promotion (WHO, 1986) describes health promotion as a process that aims to enhance positive health and prevent or reduce ill health. Health promotion is a core function of public health, defined in the Ottawa Charter for Health Promotion (WHO, 1986) as:

> *'the process of enabling people to increase control over, and to improve, their health. To reach a state of complete physical, mental and social well-being, an individual or group must be able to identify and to realize aspirations, to satisfy needs, and to change or cope with the environment. Health is therefore, seen as a resource for everyday life, not the objective of living. Health is a positive concept emphasizing social and personal resources, as well as physical capacities. Therefore, health promotion is not just the responsibility of the health sector, but goes beyond healthy life-styles to well-being.'*

The health of an individual must be seen in the context they inhabit as it is affected by health determinants such as the social and economic environment, the physical environment and characteristics and behaviours of the individual (WHO, 2006). Harrison *et al.* (2004), however, have described determinants of health as capacity, competence, capability, 'know–how', aptitude, talent, gift, force, authority, wisdom, enthusiasm, creativity and resourcefulness. This implies that determinants of health may also be viewed as assets for health, defined by Rotegård *et al*. (2010, p. 514) as:

> *'the repertoire of potentials – internal and external strength qualities in the individual's possession, both innate and acquired – that mobilize positive health behaviours and optimal health/wellness outcomes'*

Healthy adolescent development is promoted through attaining positive social, cognitive and emotional assets such as coping skills that assist in strengthening adolescents' protective factors and promoting competencies that facilitate a healthy transition to adulthood. These skills must be viewed in a wider context of the family, community and society (PAHO, 2001). Assets that can protect against negative health outcomes and promote health and wellbeing are present in the lives of every individual. However, they are not always recognized or used purposefully (Rotegård *et al.,* 2010; GCPH, 2011). This study aimed to identify individual, environmental and social factors related to family life that are relevant to the positive development of SOC in adolescence and thus enhance the health and wellbeing of adolescent. The concept of SOC will be explained in detail in chapter two.

1.3 Adolescent health and wellbeing in the family context

According to Muuss (1990) the word *adolescence* is derived from the Latin verb *'adolescere',* which means *'to grow up'* or *'to grow to maturity'* (Muuss, 1990 in Lerner et al. 2009, p.1). Adolescence is regarded as socially constructed, and in the Western world it is perceived as a developmental transitional period between childhood and adulthood. This transition is gradual with adolescents experiencing various developmental stages. It is also highly individual and it is shaped by the social and cultural context it takes place in (Shaffer & Kipp, 2010). Adolescent development is complex and multidimensional, taking place in several domains. Factors from all levels of human organization (biological, psychological, behavioural, social, cultural, ecological and historical) are combined to influence the development course of human life (Damon & Lerner, 2008; Susman & Dorn, 2009). Adolescence is perceived as a time of preparation for the future, moving from childhood immaturity towards the maturity of adulthood. However, the exact ages that mark the beginning and end of this time have not been specifically defined (Steinberg, 2008). In Western societies onset of adolescence begins at approximately 10 to 13 years of age and ends between the ages of 18 and 22 (Santrock, 2008). According to the United Nations adolescence is a developmental stage following early childhood (0-4 years) and middle childhood (5-9 years), and adolescents are individuals between the ages of 10 to 19 years (UNICEF, 2011). Spano (2004) states that adolescent developmental changes take place over a period of time consisting of three developmental stages: early adolescence (10-14), middle adolescence (15-16) and late adolescence (17-21) years of age, each stage encompassing physical, cognitive and social-emotional changes needing appropriate support. During the adolescent developmental phase several transitions take place in family and peer spheres that may modify childhood development trajectories towards health and result in improvement or deterioration of health (Viner *et al.,* 2012). Childhood experiences together with changes in puberty in conjunction with health affecting social determinants have an impact on adolescent development and lay the burden of disease as well as foundations for experiences of health and wellbeing in adulthood (Sawyer *et al.,* 2012).

Health concerns in adolescence are often unique to their developmental stage and related to their beliefs and knowledge about health, as well as their feelings of invulnerability. Adolescents are generally viewed as a healthy population. The most prominent threats to their health are largely consequences of their own behaviour and it is often only apparent later in life that choices, in regard to health, made as adolescents have influence on their adult lives and adult health (Rew, 2005). Behavioural risk factors that are established in adolescence that may carry through to adulthood are dietary habits, physical exercise habits, use of tobacco and alcohol, sexual habits and risk-seeking behaviour that may result in injury

(Rew, 2005; Coleman & Hagell, 2007). According to Rew (2005) some believe that risk-taking behaviour is a normal part of development.

While adolescence may be a period of increased risk, it also represents a window of opportunity. Breidablick *et al.* (2008) have stated that health is a concept that becomes gradually comprehensible during childhood and adolescence as individuals start to perceive the complex relationship between medical, psychological, social, and lifestyle factors as being associated with health, mental health and general wellbeing. The World Health Organization (1946) originally defined health as:

> *'…a state of complete physical, mental and social well-being, and not merely the absence of disease and infirmity'* .

Wellbeing is an important part of health reflecting an individual's quality of life and life satisfaction, it also links various determinants of health over the course of a person's life (McAllister, 2005; WHO, 2013). Several international public health and health promotion documents, such as the Lalonde Report (1974), the Alma-Atta Declaration (WHO, 1978), the health promotion discussion document (WHO, 1984) and the Ottawa Charter for Health Promotion (WHO, 1986) have played a role in influencing a shift in viewing health as a state to viewing health as a process. This can be seen in the Ottawa Charter's (1986) explication of health as being:

> *'… created and lived by people within the settings of their everyday life; where they learn, work, play and love. Health is created by caring for oneself and others, by being able to take decisions and have control over one's life circumstances, and by ensuring that the society one lives in creates conditions that allow the attainment of health by all its members.'*

There is no consensus on the definition of the concept 'wellbeing'. Wellbeing, like health, has been defined as being more than the absence of illness and pathology (McAllister, 2005; Barwais, 2011). Wellbeing often describes the positive component of optimal health and is holistic in the sense that it refers to the wellness of a person in total, whereas health is often seen as being without illness or disease. Wellbeing includes the prevalence of positive attributes such as an active pursuit of wellbeing; pro-social behaviour; personal optimization, and positive life satisfaction (Barwais, 2011). According to Green & Tones (2010) wellbeing is manifested in optimal functioning or a good quality of life while achieving balance between the dimensions of health. McAllister (2005) claims that wellbeing has both objective and subjective dimensions. Subjective wellbeing has been measured using various self-assessment tools and objective wellbeing through measuring access to physical, environmental, social and other resources. According to Hubbert (2009) wellbeing is a combination of feeling good and functioning well. Wellbeing reflects the concept of positive

mental health and has been described as a state, in which individuals have insight into their own abilities and resources, are able to cope with normal stressors of everyday life and can work productively and contribute to their own community (WHO, 2014b). Wellbeing can be, according to Dodge *et al.* (2012), a balancing point between the challenges an individual faces and the resources individuals have.

The concept of wellbeing can be associated with both the individual and the family. Edberg (2009, p.5) has defined adolescent wellbeing as:

> '*a comprehensive construct that includes the ability to acquire knowledge, skills, experience, values, and social relationships, as well as access to basic services, that will enable an individual to negotiate multiple life domains, participate in community and civic affairs, earn income, avoid harmful and risky behavior, and be able to thrive in a variety of circumstances, free from preventable illness, exploitation, abuse and discrimination. It also refers to the ability of the surrounding society (e.g., family, peers, community, social institutions) to support those aspects of well-being.'*

Wollny *et al.* (2010) concluded in an extensive literature review on family wellbeing that family wellbeing is a multidimensional, dynamic and complex construct. It is more than the sum of the total of wellbeing found in the individual family members and it is influenced by several factors such as characteristics of the individual, family structure and support, access to resources, social policies, social and cultural values, and the environment one inhabits. Fahey *et al.* (2012) define family wellbeing as an umbrella term referring to the individual wellbeing of family members. They claim that one aspect of family wellbeing is stability and quality of relationships between family members. According to Størksen *et al.,* (2005) adolescent health and wellbeing are closely linked to family wellbeing. They claim that families are often both the source of and solution to many problems of adolescent health and wellbeing. Hubbert (2009) claims that positive relationships are important for wellbeing.

It is believed that the context of people's lives determines their health and that adolescent health and wellbeing is formed through interaction with people and the world they inhabit (CSDH, 2008; Damon & Learner, 2008). There is strong evidence that health factors are learned and experienced within the family context. The family is believed to be the main source of influence on health beliefs and attitudes, as well as health related behaviour patterns influencing health and wellbeing (Denham, 1999; Tinsley, 2003). Supportive healthy parent-adolescent attachments play an important role as determinants of health, in shaping cognitive, emotional and social functioning important to health (Moretti & Peled, 2004) and it has been suggested that the family's influential behaviour continues even after adolescents leave the family home (Fingerman & Bermann, 2000; Novak & Peláez, 2004). The family has been

found to have a significant influence on the development of adolescent SOC in both a positive or negative way (Rivera *et al.,* 2012). Research has suggested that affection, ease of communication, parental knowledge, frequency of family activities, relationships between parents, affluence and perceived wealth are factors in the development of a strong adolescent SOC (García-Moya *et al*., 2012). The family's influence on adolescent health and wellbeing will be discussed in detail in chapter 2.4.

1.4 Theoretical underpinnings of the study

Two theoretical frameworks shape the context of this study: Antonovsky's (1979; 1987) theory of Salutogenesis and Bronfenbrenner's (1979) ecological systems theory. The common denominator for these two theories is that they use an asset-based approach, meaning that they recognize and focus on the positive capacities, competencies, and resources of the individual, family and community that create or promote health (GCPH, 2011). These two frameworks will be introduced briefly here and then discussed in-depth in chapters 2.6 and 2.7.

Aaron Antonovsky is recognized for his contribution in raising the philosophical question of what creates health. Antonovsky (1979) developed and introduced a theory and a research perspective, salutogenesis, that focused on developmental processes and modifying of behaviours that may lead to health and wellbeing. Salutogenesis does not claim that health is an absolute state but raises the question of how we can become healthier and less ill. Antonovsky (1979) has rejected the traditional dichotomization of health and disease stating that health is a resource that we all, to some extent possess. Salutogenesis offers a paradigm for thinking about resilience, illness and health that stands in contrast to the dominant pathogenic paradigm of health and medicine as it focuses on a wide variety of general factors that promote movement towards health. It is important to realise that the focus is on health causation, but not at the expense of obstructing the progress of pathogenic research and clinical work. The salutogenic paradigm is not intended to replace the pathogenic one; its intention is to add the study of health to the study of disease. Where previous health research focused on studying deficits and risks, Antonovsky (1979; 1987) sought to focus on factors that promote health. Antonovsky (1996) also believed that the salutogenic model could be used as an overarching theory to guide health promotion, as adopting a salutogenic focus changes how one views issues related to health and wellbeing, because its main focus is on resources for health and health-promoting processes.

Antonovsky (1979, 1987) developed the concepts Sense of Coherence (SOC) and Generalized Resistance Resources (GRRs) as the main components of his salutogenic theory believing that

these concepts are central to explaining both health maintaining as well as health promoting processes leading to improved health. According to Antonovsky (1979; 1987) Sense of Coherence can be comprehended as the individual's ability to understand their situation in life and have the capacity to assess and use resources available that will enable to facilitate movement towards a health promoting direction. Antonovsky (1979; 1987) claimed that SOC is a construct that can be applied to a collective as well as to an individual. He believed that the collective SOC is conceivably a significant factor in determining and transforming family members' individual sense of coherence. It is feasible that a family member with a strong SOC may provide support and facilitate utilization of resources needed to cope successfully with stressors. This is thought to be true especially in children and adolescents due to individual and familial developmental processes (Antonovsky, 1987; Näsman, 1998; Sagy & Antonovsky, 1999; Honkinen *et al.,* 2008; Volanen, 2011). The research findings of García-Moya *et al*. (2012) support the claims made by Antonovsky (1987) and Sagy & Antonovsky (2000) of the importance of childhood living conditions to the development of Sense of Coherence. Antonovsky (1979; 1987) defined GRRs as any physical, biochemical, artificial, material, cognitive, emotional, value-established, intrapersonal, interpersonally related or macro-socio-cultural related characteristic of an individual, primary group, subculture, or community that functions effectively in making sense of and combating stressors that we are constantly exposed to. Possessing GRRs may improve health and thus a lack of GRRs may result in creating stressors and therefore be detrimental to health. This study aimed to explore and identify individual, environmental and social factors as well as daily practices (GRRs) found in the family context that are perceived as important in contributing to the development of Sense of Coherence.

Childhood living conditions are important for the development of SOC (Antonovsky, 1987; Sagy & Antonovsky, 2000). Adolescent health and wellbeing is formed through interaction with people and the world they inhabit (Damon & Learner, 2008). Antonovsky's (1979; 1987) theory focuses on three aspects: 1) promoting health behaviours that increase people's sense of wellbeing and therefore their health, 2) recognizing Generalized Resistance Resources (GRRs) that facilitate movement in the direction of positive health and 3) identifying a capacity for the process. By viewing the development of SOC, within a social-ecological model it is possible to explore and view how health determinants as well as the capabilities and characteristics of individuals and communities may contribute in understanding the health and wellbeing of adolescents. Two of the best-known socio ecological models used to explore determinants of health and wellbeing are Bronfenbrenner's (1979) ecological model of human development and Dahlgren and Whitehead's (1991) rainbow model. These models facilitate our understanding of the consequences of the interplay between individuals, relationships,

environments and societal factors. Social ecological models of health assume that health is affected by both behavioural and environmental determinants and the interactions between these throughout the life course of individuals, families, and communities. They are often used to describe and explain multilevel causes and consequences of health conditions and have been used in public health arenas such as health education, health promotion and health psychology and in health research, as they help to identify existing risks and resources, and opportunities for health care interventions (Bronfenbrenner, 1979; McLeroy *et al.,* 1988; Dahlgren & Whitehead, 1991; Stokols, 1996; Tones & Tilford, 2001; Green & Tones, 2010).

Bronfenbrenner (1979) developed his ecological systems theory and ecological model of human development by combining general principles of ecology, general systems theory, and human development. Bronfenbrenner acknowledged that individuals are influenced by their biological inheritance and that people do not develop in isolation, but in relation to their family, home, school, community and society. Bronfenbrenner's ecological model facilitates the understanding and explanation of individual differences in cognitive, biological, and social-emotional development that are found in the context of relationships between individuals and the many environments which they inhabit. He suggested that all these ever-changing and multilevel environments are crucial to development. He identified several environments of development that influence the individual. These are the micro-system, the meso-system, the exo-system, the macro-system, and the chrono-system. The micro-system is the setting and environment of our lives where we have bi-directional social contacts with family, friends, school and other people. The meso-system is comprised of processes and relationships between the different components of the microsystem. The exo-system refers to the setting where community level influences affect the individual despite the individual not playing an active role in that setting. The macro-system is the broadest contextual system, the actual culture of an individual. The chrono-system includes the history of an individual as well as the transitions and shifts in the individual's life (Bronfenbrenner, 1979). Bronfenbrenner's theory has generated critique and praise. It has been suggested that it may be a difficult explanatory model to apply in objectively, as the extensiveness of the model suggests that practically everything within an individual's developmental environment could play a role in their development (Andersson, 1986; McLeroy *et al.,* 1988). It is, however, a model considered to be applicable to a large number of different environments and has therefore been considered generalizable across diverse cultural groups (Rew, 2005). Bronfenbrenner (1994) claimed that the primary scientific aim of the ecological approach is not to obtain answers, but to provide a theoretical framework enabling the discovery, research and understanding of various processes, conditions and contexts that shape the course of human development.

1.5 The Finnish context

Finland is a Nordic country situated in the Fennoscandian region of Northern Europe. Finland shares borders with Norway in the north and Russia to the East and to the west with Sweden located across the Gulf of Bothnia. Around 5.5 million people reside in Finland, with the majority concentrated in the southern region. About one million people reside in the Greater Helsinki area, consisting of Helsinki, Espoo, Kauniainen and Vantaa. Finland is officially bilingual, with a Finnish speaking population of 4.9 million (89,3%) and a Swedish speaking minority of 290 910 (5,3%) of the population. It is not only the language that differentiates the Swedish-speaking minority group from the Finnish-speaking majority. Swedish-speaking Finns in general have their own identity distinct from that of the majority, and they wish to be recognized as such.

The culture we inhabit teaches us how to think, how to act and interact as well as influences the health choices we make. It provides a framework for emotional, relational and behavioural actions and reactions we carry with us throughout life. Research can provide an insight into our own culture and into cultures we are not familiar with and generate transferable knowledge. This study was conducted in Finland. The majority of participants were adolescents and their parents were Swedish-speaking Finns who are a minority group with their own culture within the Finnish culture. Minority groups and ethnicity can be judged by several criteria. According to Dworkin & Dworkin (1999) there are four qualities that characterize minority groups: 1) identifiability, 2) differential power, 3) experiencing differential treatment, and 4) group awareness. The Swedish speaking Finnish minority group possesses these four qualities. Allardt & Stark (1981) claim the Swedish speaking Finns meet the criteria of self-identification of ethnicity, language, ancestry and social structure.

A number of studies suggest that the health of the Swedish speaking population in Finland is better than that of the Finnish speaking population (Hyyppä & Mäki, 2001; Nyqvist, 2009; Saarela & Finnäs, 2003; Suominen et al., 2000). According to Statistics Finland (2014), the life expectancy in Finland at birth was for boys 77.8 years and for women 83.8 years. Swedish-speaking Finnish men have a two year longer life expectancy than their Finnish-speaking counterparts, while Swedish-speaking women have one year's difference. According to Koskinen & Martelin (2003) it is unlikely that language directly affects health status and they speculate that the origin of mortality differences are a result of genetic differences, variations of the environment and differences in health behaviours. Saarela & Finnäs (2011) concur that the differences in risk for premature death according to language differences, are most likely due to geographical clusters of inherited factors due to how the country was inhabited in

historical times. They conclude that genetic factors most likely have a greater impact on mortality differences in language groups than socially conditioned health behaviours.

Hyyppä & Mäki (1997) have speculated that internalization of cultural and personal histories of the Swedish-speaking Finns might result in differences found in how they perceive their world and form interpersonal relationships compared to Finnish-speaking Finns and that these differences may later in life result in better health for the Swedish-speaking Finns. It has also been suggested that one of the reasons for the inequality in health between Swedish-speaking Finns and Finnish-speaking Finns could be attributed to differences in the extent of social capital found in the different language groups (Nyqvist, 2009). Social capital is often used as an umbrella term for concepts such as social networks, social support and social participation (Almedom, 2005). According to Nutbeam (1998) social capital is created from numerous daily interactions that take place between people, groups, families and networks. The stronger the bonds are experienced, the more likely individuals will cooperate for mutual benefits. Therefore strong social capital may create good health as it increases positive actions towards health as close friends, supportive family and good colleagues are viewed as a source of health (Putnam, 2000). Almedom (2005) claims social capital has structural and cognitive aspects. Studies looking at the social capital level in the two language groups in Finland have previously highlighted that Swedish-speaking Finns have a higher level of both structural and cognitive social capital than Finnish-speaking Finns (Hyyppä & Mäki, 2001; Nyqvist *et al*., 2008). Consequently it has been suggested that these differences may partly explain the evidenced differences in experienced health between the language groups.

Several studies conducted with Finnish schoolchildren mirror the results of the adult population's health (Suominen *et al.,* 2000; Kannas & Brunell, 2000; Saarela & Finnäs, 2004). In comparative studies of subjective health, health behaviours and school connectedness between Swedish speaking and Finnish speaking Finnish pupils it was found that the majority of pupils in both language groups considered themselves to have 'quite good health'. Boys considered themselves to be healthier than girls in both language groups, with more Swedish speaking boys having 'good health' compared to Finnish speaking boys (Kannas & Brunell, 2000; Suominen *et al.,* 2000). More than 80 per cent of Finnish adolescents regard their own health as good. Poor school performance and poor health were found to be associated with each other. Smoking, binge drinking and poor oral hygiene are all related to poor performance at school. Living in a nuclear family is a protective factor against health problems, whereas children from other types of families tend to have more health problems (Rimpelä, 2006).

According to the WHO's 2006 *Health Behaviour in School Children* (HBSC) study differences can be found between health behaviours found in Swedish-speaking and Finnish speaking schoolchildren (Currie *et al.,* 2008). The Swedish-speaking Finns are somewhat healthier in terms of dietary habits associated with the family, but somewhat less healthy in terms of dietary habits associated with leisure time. Swedish-speaking students are less physically active than the Finnish students. Fifteen-year-old Swedish-speaking boys from southern Finland smoke more and drink more alcohol than Finnish-speaking boys from southern Finland (Roos, 2012). Volanen *et al.* (2006; 2007) have in their studies found that the Sense of Coherence of the Swedish speaking population is slightly higher than that of the Finnish-speaking population. Their research suggests that psycho-emotional factors such as strong and close social ties to family and friends in addition to favourable childhood living conditions are strongly associated with a stronger SOC than a person's socioeconomic position. This finding supports the theory of the importance of childhood living conditions to the development of SOC (Antonovsky, 1987; Sagy & Antonovsky, 2000).

1.6 Gaps in knowledge

There has recently been an increase, within new public health agendas, on the focus of the adolescent phase of the life-course (Sawyer *et al.,* 2012). Research has focused on different aspects of adolescent health (e.g. Tinsley, 2003; Moretti & Peled, 2004; Lerner, 2005; Birkhead *et al.,* 2006; CSDH, 2008; Damon & Learner, 2008; McNeely & Blanchard, 2009; NACCHO, 2009; Sawyer *et al.,* 2012; Viner *et al.,* 2012; Harper Browne, 2014).

In response to the Marmot Review (Marmot, 2010), there has been an abundance of literature focusing on the assets approach in public health, advocating for use of the salutogenic framework to guide health promotion and offering recommendations for policy development and further research recommendations (see for example Foot & Hopkins, 2010; GCPH, 2011; McLean & McNeice, 2012; Shepherd, 2012). There has also been an increase in research focusing on positive healthy youth development (Lerner, 2005; Birkhead *et al.,* 2006; McNeely & Blanchard, 2009; NACCHO, 2009; Harper Browne, 2014) and in the last decade much research (see chapter two) has been conducted with a specific focus on adolescence, Sense of Coherence and its relationship to health and wellbeing (e.g. Sollerhed *et al.,* 2005; Myrin & Lagerström, 2006; Marsh *et al.,* 2007; Nielsen & Hansson, 2007; Honkinen *et al.,* 2005, 2009; Simonsson *et al.,* 2008; Bronikowski & Bronikowska, 2009; Dorri *et al.,* 2010; Edbom *et al.,* 2010; Evans *et al.,* 2011; Moksnes *et al.,* 2012; García-Moya *et al.,* 2012, 2013). The majority of studies report a positive relationship between a high level of SOC and positive health outcomes. However, gaps in the evidence exist as

most of this research has focused on SOC and adolescent health and wellbeing as an endpoint, ignoring developmental factors or the context the adolescent inhabits and the influence these have on the development of a strong SOC. Very few studies have looked at the family as context for SOC development and the processes within the family that affect adolescent health and wellbeing.

Only a few studies have focused on the central question of the existence of a collective Sense of Coherence in the family and how individual SOC is influenced by other family members' SOC (Sagy & Antonovsky, 1992; Antonovsky & Sourani, 1988; Haour-Knipe, 1999; Kulik, 2009) or what importance the family has on the development of SOC during adolescence (Margalit & Eysenck, 1990; Sagy & Antonovsky, 2000; Buddeberg-Fischer *et al.,* 2001; Garcia-Moyer *et al*., 2012). One qualitative study has explored which experiences within the family context during adolescence influence the development of the Sense of Coherence. However, this was a retrospective study and the respondents of the study were elderly individuals who had been adolescents during the Second World War (Sagy & Antonovsky, 2000). Only a few quantitative studies have, using secondary data, looked at the family processes in the context of *today's* family that could have an influence on the development of Sense of Coherence (García-Moya *et al.*, 2012; García-Moya *et al.,* 2013; Rivera *et al.,* 2012). This study aims to add to existing research through employing a mixed method study exploring and identifying factors and processes in the contemporary family context that contribute to the development of Sense of Coherence.

Within the research field of family health and wellbeing there has been a call for further research concerning links between availability of resources, family processes and family contextual variables leading to improved health outcomes (Proulx & Snyder, 2009). According to Wollny *et al.* (2010) research concerning health and wellbeing in the family context has most often focused on the wellbeing of children rather than of the family. They argue that there is a need to shift focus to the wellbeing of the whole family, as data concerning family wellbeing would enhance understanding the links between family functioning and child outcomes. They contend that data representing both subjective and objective dimensions of wellbeing, as well as data concerning factors influencing family wellbeing should be collected on several ecological levels, as such evidence-based data would support policymakers in planning services and public policies affecting families. Wollny *et al.* (2010) claim there is also a need for more cross-cultural and comparative studies of family wellbeing, and studies exploring how families themselves conceptualise family wellbeing. Despite the increase in research within the salutogenic framework, several authors have called for additional research to further understanding of how life experiences

and social, cultural and historic contexts shape GRRs, strengthen SOC and promote health (Eriksson & Lindström, 2010; Eriksson, 2007; Billings & Hashem, 2010; Mittlemark & Bull, 2012). This study aims to meet these calls through exploring the development of adolescents' Sense of Coherence within a family context to identify factors (GRRs) that could be attributed to differences in strength of Sense of Coherence and therefore be relevant to the development of a strong Sense of Coherence, ultimately enhancing the health and wellbeing of the adolescent.

1.7 Research aims and demarcation of research area

This study aimed to explore, within a salutogenic and socio-ecological framework, the Sense of Coherence (SOC) in a sample of Swedish-speaking Finnish adolescents and their parents, and to explore the Sense of Coherence found in the family (SOFC). It also intended to explore how family life, as a health-promoting context, is associated with the development of Sense of Coherence in adolescents thus enhancing the health and wellbeing of adolescents. The objectives of the study were to:

1) Examine the Sense of Coherence in a sample of Swedish-speaking Finnish adolescents and their parents to view possible differences and changes over a 3-year period.

2) Explore and identify individual, environmental and social factors and daily practices found in the family context that are perceived as important for health and wellbeing and may contribute to the development of Sense of Coherence.

3) Gain insight into the development of adolescents' Sense of Coherence within a family context to identify factors that could be attributed to differences in strength of Sense of Coherence and therefore be relevant to the development of a strong Sense of Coherence.

The study aims were met by conducting an exploratory study using a longitudinal integrative mixed methods design. To increase the strength of the findings three repeated surveys, consisting of quantitative and open-ended questions, were conducted in a group of adolescents (wave I-III), and two surveys with their parents (wave I and III). Family interviews, through a semi-structured interview in combination with genograms and eco-maps, were designed to provide information on context and family processes.

This study was not interested in measuring health as an outcome. A vast amount of research exists demonstrating that a strong SOC is beneficial to positive health outcomes (see chapter 2.6). Nor was the study intended to determine statistical causality, as the sample size of this study was limited and generalizability could therefore not be determined. This research aimed to respond to the call for additional research needed to further the understanding of how life experiences shape GRRs, strengthen SOC and promote health. The primary focus of this study was to explore and describe how family life, as a health-promoting context, is associated with the positive development of SOC in adolescents.

Secondly, it is important to acknowledge that there is diversity in concepts of adolescents, families, and health and wellbeing found in literature, in research, and in policies and practice. This thesis recognises that national governments have their own definitions and age threshold for children, adolescents, youth and young people. The terms 'adolescents', 'youth' and 'young people' are quoted as found in their original source when secondary information is presented. The term 'adolescent' is used throughout this thesis when primary data is presented. For purposes of flow and readability the term 'parent' is used in this thesis. However, it is recognized that the information presented is also often relevant to guardians or other caring adults in the lives of adolescents.

Finally, it was deemed important to provide a brief insight into the Finnish context in which the study took place. It must, however, be mentioned that this study was not aimed at investigating possible differences in SOC between the two language groups in Finland, nor was it aimed at exploring eventual explanatory factors in the family context of Swedish-speaking families and comparing them to those found in Finnish-speaking families. Also, it did not purposively seek to identify factors related to the culture of Swedish-speaking Finns.

1.8 Outline of thesis

The purpose of this chapter has been to provide a brief introduction to the study through presenting background information, a short presentation of the theoretical underpinnings this study rests upon, an insight into the Finnish context, to highlight gaps in knowledge, and to introduce the aims of the study and demarcation of the research area.

Chapter two provides rationale and background for this study, and explains the theoretical underpinnings of this study. First, the significance of public health policies and health promotion to adolescent health is discussed. After this the family, as a health socialization unit, will be discussed from practical, theoretical and evidence based perspectives. This will

be followed by an in-depth discussion of the salutogenic framework guiding this study. The chapter ends with a discussion on the development of SOC seen through the lens of Bronfenbrenner's (1979) ecological model of human development.

Chapter three presents the aims and research questions, outlines the philosophical underpinnings of this study and justifies the methodological approach chosen when designing this study. It then continues with a detailed description of the data sampling strategy, data collection methods, data analysis methods, data quality evaluation in mixed methods research, and reflections on challenges found in the research field before ending with a discussion on ethical considerations.

Chapter four presents the findings from both cross sectional and longitudinal data. The findings are presented in three subsections. First as findings generated from quantitative data pertaining to Sense of Coherence. Secondly, as mixed method findings generated from inductive qualitative content analysis from open-ended questions and quantitative data pertaining to adolescent SOC, and finally as 18 narrative profiles of strong and weak families. Each subsection concludes with an interpretation of findings.

Chapter five presents a detailed discussion of findings in relation to the research questions posed in chapter three, as well as to the theoretical frameworks this study rests on.

Chapter six presents conclusions regarding the research and discusses its contribution knowledge, implications for practice and policy, strengths and limitations and gives suggestions for future research.

Chapter Two - Literature review

2.1 Introduction

The purpose of this chapter is to provide the rationale and background for this study, and to explain the theoretical underpinnings of the study. First, the significance of public health policies and health promotion to adolescent health is discussed, and how Antonovsky's (1979; 1987) theoretical framework of Salutogenesis is relevant to health promotion. Following this the family, as a health socialization unit, is discussed from practical, theoretical and evidence based perspectives. This is followed by an in-depth discussion of the salutogenic framework guiding this study. Thereafter the salutogenic components 'Sense of Coherence', 'Sense of Family Coherence' and 'General Resistance Resources', and their relation to the study as evidenced in existing literature and current research are explored. The chapter concludes with a discussion on the development of SOC seen through the lens of Bronfenbrenner's (1979) ecological model of human development.

2.2 The significance of public health and health promotion for adolescent health

As mentioned in the introduction there has recently been an increase in public health research focusing of the adolescent phase of the life-course (Sawyer *et al.,* 2012). Public health brings together multiple agencies and stakeholders, with vested interest in a specific target population, and allows them to identify needs and resources as well as implement interventions at the community and population level (AMCHP, 2010). Focusing on health during the adolescent phase of the life-course is important for sustaining and protecting public health investments made in childhood. It also provides an opportunity to correct childhood disadvantages that may have an effect on future health (WHO, 2014a).

The United Nations has proclaimed and agreed that within the Universal Declaration of Human Rights (1948) that everyone has the right to *'the enjoyment of the highest attainable standard of physical and mental health'* (WHO, 2008). The United Nations has also proclaimed that individuals under the age of 18 have the right to special care and protection. The Convention on the Rights of the Child (UNCRC, 1989) with its 54 articles, aims to set basic standards for the wellbeing of children and youth. Several articles contain fundamental principles that encompass aspects of physical, emotional, cultural, social and material elements that are responsible for the health and psychosocial wellbeing of adolescents. Amongst these can be mentioned *'the best interest of the child'* (article 3), '*survival, development and protection'* (article 6), '*participation* (article 12), and '*opportunity to develop to the fullest potential'* (article 29). The majority of countries have committed to the international convention that recognizes adolescents' right to the highest attainable standard of health. This convention

provides guidance and support for governments and public health sector partners when designing, developing, implementing, monitoring and evaluating national health policies and laws that benefit adolescents.

In the last decade, there has been an increase in research focusing on positive healthy youth development (Lerner, 2005; Birkhead *et al.,* 2006; McNeely & Blanchard, 2009; NACCHO, 2009; Harper Browne, 2014). This positive approach to healthy youth development resonates with health promoting approaches, such as *'salutogenesis'* (Antonovsky, 1979) and *'assets based approach to public health'* (Morgan & Ziglio, 2010) that have evolved in the field of health promotion and public health. Numerous approaches ascribing meaning to health have been presented over time. The three most familiar approaches in the health promotion arena are the *'medical model', 'holistic model'* and *'wellness model'* (Scriven, 2010). Traditionally the main approach to health was that of a pathogenic paradigm defining health as the absence of disease, reached through reducing and/or eradicating risk (Green & Tones, 2010). The medical model drew on scientific individualistic and reductionist understandings of what health is. Health was seen as a state of normal functioning that was from time to time disrupted by disease or illness. The view that the physical body was separate from social or psychological processes meant that subjective dimensions of health and wellbeing or health promoting socio-ecological systems were not taken into account (Lyons & Chamberlain, 2006). This pathogenic paradigm has received criticism of being too individualistically focused, while it simultaneously fails to respond to the complex and structural determinants of health (Dakubo, 2011). The traditional medical understanding of health as the absence of disease was challenged by the World Health Organization over 65 years ago (WHO, 1946) with their holistic definition of health as:

> *'...a state of complete physical, mental and social well-being, and not merely the absence of disease and infirmity'* .

This 1946 definition has been criticised for doing little to explain how wellbeing is operationalized and achieved (Cronin de Chavez *et al.,* 2005). However, it is considered important in the development of health promotion as it stresses the holistic nature of health, providing a number of dimensions beyond the medical and physiological. The wellness model of health was shaped by international public health and health promotion initiatives, such as the Lalonde Report (1974), the Alma-Atta Declaration (WHO, 1978), the health promotion discussion document (WHO, 1984) and the Ottawa Charter for Health Promotion (WHO, 1986). The common factor of these documents is that they describe health promotion as a process that aims to enhance positive health and prevent or reduce ill health, thereby shifting the focus from viewing health as a state to viewing health as a process.

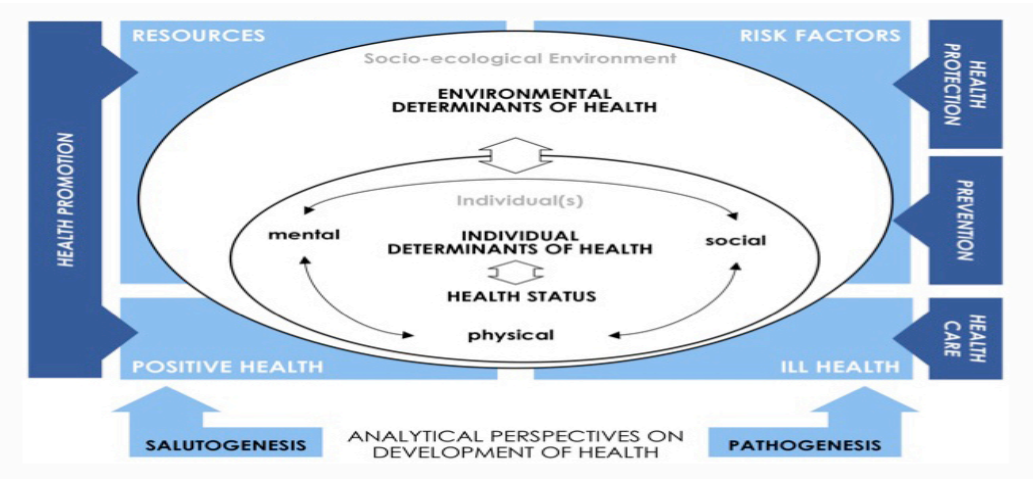
Health promotion is a core function of public health and has been defined in the Ottawa Charter for Health Promotion (WHO, 1986) as:

> *'the process of enabling people to increase control over, and to improve, their health. To reach a state of complete physical, mental and social well-being, an individual or group must be able to identify and to realize aspirations, to satisfy needs, and to change or cope with the environment. Health is therefore, seen as a resource for everyday life, not the objective of living. Health is a positive concept emphasizing social and personal resources, as well as physical capacities. Therefore, health promotion is not just the responsibility of the health sector, but goes beyond healthy life-styles to well-being.'*

The Ottawa Charter for Health Promotion (1986) with its positive focus on the capacity of individuals and communities has suggested that health promotion takes place in the five following action areas; 1) building healthy public policies, 2) creating supportive environments for health, 3) strengthening community action for health, 4) developing personal skills and 5) re-orientating health services. The change from a deficit and risk focus to a health promoting focus in public health was seen in the emergence of several theories focusing on resources, capabilities and psychosocial factors contributing to wellbeing. Among them was Antonovsky's (1979; 1987; 1996) theory of salutogenesis that claimed that health is a resource that everyone to some extent possesses (see chapter 2.6).

Bauer *at al.* (2006) proposed a Health Development Model (Figure 2.1) in which they indicate salutogenesis and pathogenesis as the two key analytical perspectives of health development in the fields of public health, health promotion and health care. This model provides the theoretical foundation to identify, implement and assess starting points for public health intervention strategies and methods related to both pathogenic and salutogenic approaches.

Figure 2.1: Health Development Model



Source: Bauer *et al*. 2006 p.155

Health promotion primarily, however not exclusively, supports salutogenic health development whereas health protection, prevention and health care primarily aim at reducing and reversing pathogenic health development. Bauer *et al.* (2006), like Antonovsky, suggest that individuals experience simultaneously positive and negative aspects of health. Salutogenic and pathogenic structures and processes will vary during the individual's life, as resources can facilitate in recovery from illness just as risk factors can hinder salutogenic processes. It could be suggested that the Ottawa Charter for Health Promotion (WHO, 1986) proposed a salutogenic view on health as it acknowledged that ecology, caring, and holism were essential elements in developing strategies for health promotion. The Ottawa Charter for Health Promotion (WHO, 1986) also highlighted the importance of incorporating ecological factors in health promotion strategies aimed at whole populations over the life-course. Antonovsky (1996) believed that the salutogenic model could be used as a theory to guide health promotion. He claimed that adopting a salutogenic focus changes how issues related to health and wellbeing are viewed, because the main focus is on resources for health and health-promoting processes. Eriksson and Lindström (2008, p196) constructed a salutogenic definition of health promotion by acknowledging the reciprocal relationship between the Ottawa Health Charter (WHO, 1986) and the salutogenic paradigm. They propose a salutogenic definition of health promotion as:

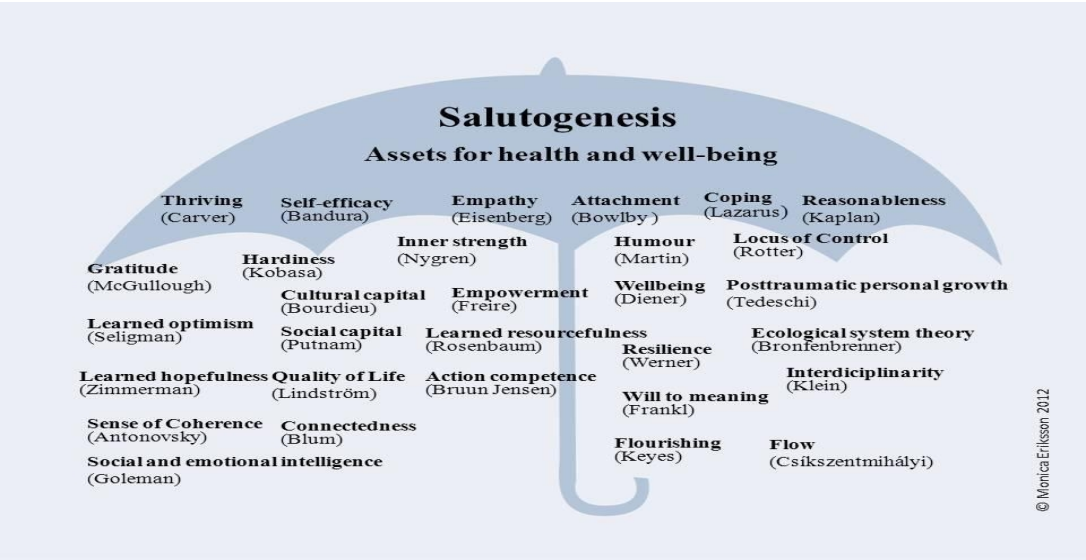
> *'... the process of enabling individuals, groups or societies to increase control over, and to improve their physical, mental and spiritual health. This could be reached by creating environments where people see themselves as active participating subjects who are able to identify their internal and external resources, use and reuse them to realize aspirations, to satisfy needs, to perceive meaningfulness and to change or cope with the environment in a health promoting manner.'*

A variety of factors, underpinned by social and economic inequalities, exist in shaping health and wellbeing (Marmot, 2010). These factors, also known as health determinants consist of a range of individual, behavioural, social, economic, cultural, physical and environmental factors that interact to influence health of individuals or populations (Nutbeam, 1998; Marmot, 2010). Harrison *et al.* (2004) have described determinants of health as capacity, competence, capability, 'know–how', aptitude, talent, gift, force, authority, wisdom, enthusiasm, creativity and resourcefulness. This implies that the determinants of health may also be viewed as assets for health. Morgan & Ziglio (2010, p5) define health assets as:

> '*Any factor (or resource), which enhances the ability of individuals, groups, communities, populations, social systems and /or institutions to maintain and sustain health and well-being and to help to reduce health inequities. These assets can operate at the level of the individual, group, community, and /or population as protective (or promoting) factors to buffer against life's stresses'.*

Morgan and Ziglio (2010) have drawn on the salutogenic theory to build an asset model for public health. Lindström & Eriksson (2010) claim that salutogenesis is an assets approach that can be visualized (Figure 2.2) as 'The salutogenic umbrella'. Billings & Hashem (2010) on the other hand refer to these related theories and concepts as being included within a 'family' of salutogenic perspectives. The common denominator for the theories and concepts is that they are positive, including salutogenic elements and dimensions that focus on resources.

Figure 2.2: The salutogenic umbrella



Source: Eriksson 2012 (personal correspondence)

Positive health within the context of health promotion can be conceived as having resources or assets facilitating us to lead our everyday lives. This implies that health is a positive concept that emphasizes personal and social resources as well as physical capabilities and not an end product. Assets that can protect against negative health outcomes and promote health and wellbeing are present in the lives of every individual. However, they are not always recognized or used purposefully (GCPH, 2011). Billing & Hashem (2010) concluded in their review of the promotion of positive mental health in older people and salutogenesis, that salutogenic principles are developmental. They claimed that it may be useful to embed a salutogenic framework in health promotion activities and policies already early in the life-course, as this would promote coping strategies and create positive mental health in preparation for later life. However, they recommended that more comprehensive research should be undertaken, including an investigation and comparison of practice benefits within the broader 'family' of salutogenic concepts.

2.2.1 Public health policies promoting adolescent health

Numerous public health policies exist worldwide aimed at promoting the health of adolescents. Due to the limited scope of this thesis only a few relevant to the study will be discussed. As mentioned in the introduction there has recently been an increase, within public health agendas, in focusing on the adolescent phase of the life-course (Sawyer *et al.,* 2012). This has coincided with an increase in adolescent public health research focusing specifically on positive healthy youth development (Lerner, 2005; Birkhead *et al.,* 2006; McNeely & Blanchard, 2009; Harper Browne, 2014). There is empirical evidence supporting the use of positive health promoting approaches in youth development when designing and implementing adolescent health policies and programmes (Bernat & Resnik, 2006; Currie *et al.,* 2012).

The WHO report *Health for the world's adolescents* (WHO, 2014a) found numerous international and national public health policies advocating for the protection and improvement of adolescent health. However, policies and their implementation vary widely. According to the report most countries in the European region implement health related policies based on recommendations for child and adolescent health, compared to only a few countries in other regions of the world. The Ottawa Charter for Health Promotion (1986) advocates for the building of healthy public policies. Healthy public policies and services aimed at promoting youth health and wellbeing are important. Healthy public youth policies aim to create environments that promote young people's health through strengthening protective factors and reducing risk factors (Ireland DOH, 2013). It is believed that healthy public youth policies may be particularly effective in shaping adolescent health behaviours due to the fact that 1) factors outside the home become evermore important at this developmental stage, 2) have the potential to improve the health of entire cohorts of adolescents and 3) allow for health benefits to be carried over into later phases of the life course (Bleakley & Ellis, 2003).

The term Health in All Policies (HiAP) has been used when referring to actions taken to incorporate health into public policies. The HiAP approach has been implemented worldwide with each country taking actions deemed appropriate for them (Ollila, 2011). Finland has used the HiAP approach in its long-term health policy programme 'Health 2015' which provides a national framework for health promotion. In Finland the Ministry of Social Affairs and Health (MSAH) has responsibilities for defining key social and health policy targets. The MSAH is responsible for formulating Finland's family policy. The primary objective is to monitor and promote the health and welfare of children, adolescents and families. Several initiatives to promote the health and wellbeing of children and adolescents

in their everyday life contexts exist, such as ‘quality recommendations for school health care’ or ‘the strategy for school wellbeing’. These have been collaborative projects carried out by the Ministry of Education and Culture, the National Board of Education, the Ministry of Social Affairs and Health, and the National Research and Development Centre for Welfare and Health (MSAH, 2013). The Ministry of Education and Culture guides and develops youth policy by means of legislation, studies, reviews, and funding. Every four years the Finnish government implements a policy development programme called the ‘Child and Youth Policy Programme’ in accordance with the Youth Act. The Youth Act (72/2006) is a population act concerning all people under the age of 29 years of age and provides for the improvement of young people's living conditions and youth services. The purpose of this Act is to *‘support young people's growth and independence, to promote young people's active citizenship and empowerment and to improve young people's growth and living conditions’*. The focus of the Child and Youth Policy Programme 2012-2015 is on ‘*participation, non-discrimination and everyday life management’* drawing on the action areas of the Ottawa Charter (Ministry of Education and Culture, 2012).

The UK, like Finland, is a country that has through its public health policies and legislation paid specific attention to promoting the health of adolescents and young people. In the UK the Department of Health (DH) published the public health white paper *‘Healthy Lives, Healthy People’* for England advocating a new approach in how public health challenges should be met. The white paper adopted a life course framework focusing on the wider determinants of health. Several health promoting proposals emphasising the health and wellbeing of children, adolescents, youth and their families are addressed in the paper’s priority areas ‘Starting well’ and ‘Developing well’ (Department of Health, 2010). Several public health frameworks, focusing on child and adolescent health and wellbeing, were put in place following the publication of the white paper. One of these was *‘Improving young people’s health and wellbeing, A framework for public health’,* that was developed by Public Health England together with the Association for Young People’s Health. This framework articulates six core principles promoting a holistic approach to health and wellbeing for young people: 1) putting relationships in the centre, 2) focusing on what helps young people feel well and able to cope, 3) reducing health inequalities, 4) championing integrated services, 5) understanding changing health needs as young people develop, and 6) delivering accessible youth friendly services (PHE, 2015). These principles are built on evidence from research, and the current focus on health and wellbeing in the adolescent life-course, and like the Finnish Child and Youth Policy Programme draw on the action areas of the Ottawa Charter.

The development of Scottish Government policy has been influenced by asset based approaches based on Antonovsky's concept of salutogenesis (Scottish Government, 2013). Youth has been recognised as a critical period for influencing future health outcomes and the Scottish Government has implemented several policies supporting the health and wellbeing of young people, including '*Getting it right for every child'* (Scottish Government, 2012) and '*Curriculum for Excellence'* (Education Scotland, 2013). *Getting it right for every child* (GIRFEC) aims to promote co-ordinated action to improve the life chances of children and youth in Scotland (Scottish Government, 2012). The Curriculum for Excellence (CfE) is the Scottish Government's lifelong learning strategy aimed at developing knowledge and skills in children and young people that they will need for learning, life and work (Education Scotland, 2013). The Scottish Government states that education and the implementation of the CfE have key roles in promoting the health and wellbeing of children and young people (Education Scotland, 2013). This standpoint is based on research strongly linking education to health and health determinants (Marmot, 2002; Feinstein *et al.,* 2004; Lahema *et al.,* 2004). Adolescents, in western society, spend a great deal of time in school. Therefore, it makes sense that there is in the school setting a focus on adolescent wellbeing. The CfE identifies the health and wellbeing of children and young people as a shared responsibility of all adults. The CfE advocates for the use of a holistic approach, consistent with the United Convention on the Rights of the Child (UNCRC, 1989) and builds on the work of Health Promoting Schools (WHO, 1998).

In Finland it is the Ministry of Education and Culture that is responsible for planning, preparing and implementing educational policies. Schools have responsibilities for both educating children and promoting student wellbeing. These responsibilities are regulated by legislation in the Basic Education Act and enforced in various manners. Student wellbeing is the promotion and maintenance of good learning, good physical mental and social health. Health education and promotion are present throughout the entire period of education. In basic education the focus is on understanding health and wellbeing as physical, psychological and social capabilities. During this period developing skills in acquiring and applying health information, as well as reflecting on the values of health and wellbeing are also emphasised. It is the responsibility of everyone working in schools and in student welfare services (school nurses, doctors, counsellors and psychologists) to promote student wellbeing in cooperation with families. The Finnish education system has underpinning values of equality and human rights. This can be seen in the provision of free basic education, access to necessary textbooks, school transportation and fully subsidized hot meals (Välimaa *et al.,* 2008). School health care is free of charge for all primary and

secondary school pupils and includes health checks, health advice and oral health care (MSAH, 2013).

In conclusion it can be said that despite the many differences found in national policies and practices supporting the healthy development of young people, several commonalities do exist. These commonalities according to Viner *et al.* (2012): 1) are grounded in evidence-based practice, 2) focus on wider determinants of health, 3) encompass a holistic view of health, 4) bring together promotion, intervention and prevention, 5) aim at empowering and strengthening young people, and finally 6) acknowledge that during the adolescent developmental phase there are several important transitions that take place in family and peer spheres affecting health outcomes for adolescents and young adults.

2.3 The family as a context for healthy adolescent development

The health of an individual must be seen in the context of where they live, work or go to school as it is affected by health determinants such as the social and economic environment, the physical environment and characteristics and behaviours of the individual (WHO, 2006). Healthy adolescent development is promoted through attaining positive social, cognitive and emotional assets such as coping skills that assist in strengthening adolescents' protective factors and promoting competencies that facilitate a healthy transition to adulthood. These skills including communication, empathy, understanding consequences, decision making and managing stress, are important for contributing to and shaping individual development but must be viewed in a wider context of the family, community and society (PAHO, 2001).
It is possible to imagine the family as a natural social system that is made up of inter-dependent but interacting family members. Each family is as unique and individual as the individual family members it consists of (Dallos & Draper, 2000; Friedman, 1998; Norris *et al.,* 2003; Goldenberg & Goldenberg, 2004). Families have been considered a natural part of human life. However, the meaning of family is socially constructed and depends on the shared understanding of what family means in a certain social setting (Newman, 2009).

Many authors have discussed the complexity and diversity of 'family' (Cheal, 1993; Bengtson *et al*., 2005; Scott, 2007; Golombok, 2007; Oinonen, 2008; Day, 2010; Ribbens McCarthy & Edwards, 2011), and concluded that family situations vary significantly between different generations, cultures, religions and ethnicities. Normative values may be followed, ignored and/or change during the family lifecycle. Just as it is impossible to define 'the family' it is not possible to speak of changes affecting family as global truths. In

Europe, historical events such as industrialization, the women's liberation movement, World Wars I and II, access to contraceptives, artificial insemination and increased divorce rates have changed the traditional roles of the man as breadwinner and the woman as homemaker (Cheal, 1993; White & Klein, 2008; Budig, 2007; Kiernan, 2007; Pryor & Trinder, 2007; Richards, 2007; Oinonen, 2008; Day, 2010). In Finland, according to Oinonen (2008), the male breadwinner/ female homemaker model never became dominant because most families were forced into the two-earner model as a result of low wages and material shortages caused by the Second World War. Several social and cultural changes that took place in the 1960s and early 1970s also influenced changes in Finnish families. Amongst them was the increase in female labour force participation leading to both an economic growth and a demand for an educated labour force in new occupational branches. As women gained equal rights to education, work and wages they also became visible and active in the same positions and roles as men. Changes in the attitudinal climate in relation to moral issues resulted in gender equality as women became able to pursue personal goals and be active members of society (Oinonen, 2008).

A fundamental problem in studying families is the lack of a generally agreed definition of 'family'. Definitions of 'the family' often draw on stereotypes that fail to take into account the realities of diverse family lives that exist today. White & Klein (2008) contend that the ideology of the 'normal' family varies and is shown in the cultural context of the society we live in. Several factors influence our perception of family or family life such as societal ideologies, our time and place in history, a multitude of different factors such as ethnicity, sexual orientation, and religion, level of education and our own family values. Family study researchers have responded to this dilemma in various ways. Some researchers have found the concept 'family' too limiting and politically charged and have used concepts such as 'intimacy' (Gabb, 2008) and 'personal life' (Smart, 2007). According to Ribbens McCarthy & Edwards (2011) some researchers and policy makers continue to use the concept 'the family' as a model or benchmark when considering how the family, as an institution, relates to other social institutions such as economic or educational systems.

The family can be viewed as a form of social group. According to Day *et al*. (1995) there are several differences between the family as a social group and other groups. They claim that families are more often than other social groups biologically connected, thus family membership may be involuntary and more permanent. Emotional ties may intensify bonding of family members, often resulting in a shared family paradigm or worldview. The family can be considered as a safe environment if the actions of family members are open and honest. However, the family is also an easy environment to hide malicious actions of family

members such as abuse, addictions, and neglect. This resonates with the views of White & Klein (2008) who in addition, include intergenerational and legal aspects of families, not just biological, linking them to a larger kinship organization. White & Klein (2008) claim that families have been the primary group for production, reproduction and socialization. Industrialized Western societal definitions of family have generally ranged from nuclear family (parents/children, husband/wife), family of origin (the family one is born into) to extended family (other persons related by blood, grandparents, cousins etc.). The nuclear family has been supported positively through various actions in society such as religious beliefs of the 'sanctity of marriage', government systems and laws that favour family, products that are sold in 'family size' packages, and advertising images of family consisting of mother, father and two children, preferably a boy and girl.

Today sexuality and reproduction can be separated from each other resulting in changed attitudes towards the foundation of relationships and a changed meaning of family (Treas, 2007). Issues of economic independence, equality and the quality of relationships have also become important. Despite changes for women in society, women continue in many places to be exclusively responsible for the care of the domestic sphere, carrying out the majority of housework and childcare in addition to working (Budig, 2007). Family structure has been found to influence family health. Denham (2003) claims that even though the whole family unit assists individual family members in ensuing successful health promoting behaviours it is most often women that safeguard and instil family health.

2.3.1 Family definitions

Both theoretical and situational definitions of family exist (Bengtsson *et al.,* 2005). According to Smith (1995) theoretical family definitions are formulated based on particular theoretical perspectives and can be linked to specific theories. Governments and other authorities use situational definitions to emphasize the rights and obligations the family has, as well as the benefits that a family may be entitled to. Because of this, different definitions can have real-life everyday consequences for individuals such as financial aid for education, health insurance and health care, and social security. By exploring examples of family definitions an understanding of the reasoning for using theoretical or situational definitions can be gained. Friedman (1998, p9) defines, for the purpose of nursing, family broadly as:

> *'...two or more persons who are joined together by bonds of sharing and emotional closeness and who identify themselves as being part of the family'*

while Stretch & Whitehouse (2010, p154) use a more limited definition of family as:

> *'a social group of people who are related genetically or by marriage'.*

The definition by Friedman (1998) suggests that in the context of care it is the emotional component between patient and caretaker that may be an asset in promoting health more than biological bonds. Therefore it is better to take into consideration the patient's self-defined family when planning care. Official or legal definitions of family, however, are acknowledged when making choices for life saving medical procedures. The UK Office for National Statistics (2012) has defined family as:

> *'a married, civil partnered or cohabiting couple with or without children, or a lone parent with at least one child. Children may be dependent or non-dependent'.*

According to the Finnish Bureau of Statistics (2012) a family consists of:

> *'A married or cohabiting couple or persons in a registered partnership and their children living together; or either of the parents and his or her children living together; or a married or cohabiting couple and persons in a registered partnership without children… Persons living in the household-dwelling unit who are not members of the nuclear family are not included in the family population, even if they are related, unless they form their own family… The same applies to people who live alone or with a person of the same sex… A family can consist of no more than two successive generations… A family with underage children refers to a family which has at least one child aged under 18 living at home'.*

This is a bureaucratic, restricted definition, aimed at limiting legal liabilities of the family and benefits a family may be entitled to, and does not resonate, for example, with the social definition given by Friedman (1998). In terms of civil legislation it considers married, unmarried and same-sex couples with or without children living at the same address as family. However, it only takes into consideration the conception of the family based on biological and marital ties, not recognizing any members outside the nuclear unit. When commencing this study marriage was an option only for heterosexual couples. Same sex couples could register their relationship and enjoy rights and obligations similar to married couples, such as adopting children within the registered relationship. However in November 2014 the Finnish Parliament pre-approved the bill to establish a gender-neutral definition of marriage. The law will take effect in 2016.

2.3.2 Definition of family for this study

There seems to be no universal definition of the family, but rather many applicable definitions to choose from. Motives and arguments for defining the family often depend on research paradigms and the purpose of defining the term. Thus, perspectives on what constitutes family vary greatly. Basing the definition of family on theoretical perspectives means that the family becomes whatever the researcher wants it to be**.** Two definitions of

family were chosen to guide this study. The first definition (Goldenberg & Goldenberg, 2004, p3) highlights several properties of the salutogenic and socio-ecological frameworks this study rests upon. It also emphasizes how many factors are present in commonplace family functioning:

> *'more than a collection of individuals sharing a specific physical and psychological space… embedded in a community and society at large, is moulded by it's existence at a particular place and time in history, and is shaped further by a multitude of interlocking phenomena such as race, ethnicity, social class membership, life cycle stage, number of generations in this country, sexual orientation, religious affiliation, the physical and mental health of its members, level of educational attainment, financial security as well as family values and belief systems'.*

The second definition that was chosen to guide the empirical part of the study was Friedman's (1998, p9) definition of family as:

> *'…two or more persons who are joined together by bonds of sharing and emotional closeness and who identify themselves as being part of the family'.*

Due to the existing multitude of family constellations this definition was believed to allow the adolescent participants in the study an opportunity to define their own perception of family and choose whomever they wanted to answer the surveys.

2.4 Family as a health socialisation unit

As discussed in the introduction it has been suggested that health behaviours learned in adolescence set precedence for healthy behaviours that extend throughout the lifespan (Viner & McFarlane, 2005; Rew, 2005; Davies *et al.,* 2009; Schaffer & Kipp, 2010). There is strong evidence that health factors are learned and experienced within the family context. The family is the primary socialisation unit for the majority of children and adolescents. This means the family is the main source of influence on health beliefs and attitudes, and health related behaviour patterns influencing health and wellbeing (Tinsley, 2003). Larson *et al.* (2002) claim that the family is viewed worldwide as a central resource of support for adolescents. Satir (1972) likens the family to factories where people are made, recognizing the importance the family and nurturing relationships play in shaping the adolescent and helping them develop into well-adjusted individuals. It has been suggested that the family's influential behaviour continues even after adolescents leave the family home (Fingerman & Bermann, 2000; Novak & Pelaez, 2004).

According to Paek *et al.* (2011) health socialisation is the process when healthy lifestyles and behaviours are acquired through interpersonal relationships and exogenous variables affecting health related attitudes, knowledge and skills. Two types of socialisation exist, primary and secondary. It has been suggested that families, as primary socialisation agents, provide a context for promoting health throughout the developmental life of the family. Primary socialisation refers to the process of children learning attitudes, values and social norms within the family while secondary socialisation refers to the same processes taking place outside the family. Secondary socialisation agents for adolescents are usually peers, school, the media and social media (Tinsley, 2003; Masten & Shaffer, 2006; Schaffer & Kipp, 2007; Paek *et al.,* 2011). Socialisation can affect health and wellbeing both positively and negatively. During the adolescent developmental phase several transitions take place in family and peer spheres that may modify childhood development trajectories towards health and thus result in either improvement or deterioration of health (Viner *et al.,* 2012).

Research suggests that adolescents supported by their family are more likely to choose health-promoting behaviours and avoid activities that can lead to negative health outcomes (Woodgate & Leach, 2010; Bačíková-Šlešková *et al.,* 2011; Boudreault-Bouchard *et al*., 2013). Ackard *et al.* (2006) found associations with compromised behavioural and emotional health in adolescents that perceived their relationships with parents as not caring and had difficulty talking to parents about problems. Woodgate & Leach (2010) found, in their study on youth's perspectives of determinants of health, that lifestyle associated factors such as healthy eating and exercise were perceived by adolescents as the most important factors contributing to health. Parents were seen as either facilitating or hindering opportunities for these lifestyle factors affecting physical health. Parents were also identified as being important to emotional and mental health by supporting adolescents emotionally, helping with decision-making choices and being present during difficult times. Friends were recognized as having both positive and negative impacts on health behaviours. Families, can through creating safe and healthy environments for individuals, also be viewed as a social resource promoting wellbeing in communities (Thomlinson, 2002; Tinsley, 2003; Schaffer & Kipp, 2007).

Research has shown that resource-based concepts such as 'connectedness' and 'social capital' have been used, within family health and health paradigms, to describe the role that interpersonal relationships play in health socialization of adolescents. Connectedness has been described as a movement towards others through affection and activity and a response to relatedness and belonging (Karcher *et al.*, 2006). Connectedness reflects an individual's perception of involvement in and affection for others, activities and organizations and is

often used to refer to protective relationships that exist between adolescents and their environment. This refers to all relationships that adolescents have within and outside of the family, and within a broader social context, including peers, schools and other institutions in the community (Allen *et al.,* 2004). The general view is that connectedness serves as a protective function for adolescent health (Resnick, 2000; Blum, 2003, 2005; Blum & Libbey, 2004; Barber & Schluterman, 2008; McNeely *et al.,* 2002; McNeely & Falci, 2004). There is a vast body of research supporting the assumption that caring and connectedness serve as protective factors, are associated with better mental health outcomes and have an impact on adolescent health and wellbeing (Resnick *et al.,* 1993; Resnick *et al.,* 1997; Lezin *et al.,* 2004; Ungar, 2004).

Family-Connectedness has been referred to as one of the most powerful protective factors in the lives of adolescents (Resnick *et al*., 1993). Both family- and school connectedness have shown to promote resilience, protect against risks and be beneficial to the adolescents' perceived state of health and increase academic success (Blum, 2005; Blum & Libbey, 2004; McNeely *et al.,* 2002; McNeely & Falci, 2004; Resnick *et al.,* 1993; 1997) as well as be associated with lower rates of substance abuse, sexual risk behaviours, violence, emotional distress and positive social outcomes (Resnick *et al*., 1997). School connectedness has been found to have positive affects on wellbeing (Anderman, 2002; Gillison *et al.,* 2008; Jose *et al*., 2012). Lower levels of school connectedness have been associated with depressive symptoms in adolescents (Shochet *et al.,* 2006). Peer connectedness has been has been found to be both a strong predictor of wellbeing (McGraw *et al.,* 2008) and positively associated with risk-taking (Karcher, 2002; Karcher & Finn, 2005). It has been theorized that connectedness found through non-familial supportive adult relationships in the community is linked to wellbeing and healthy development of children and adolescents (Baumeister & Leary, 1995; Catalano *et al*., 2004; Thompson *et al*., 2006; Whitlock, 2007).

The second often used resource-based concept describing the role that interpersonal relationships play in health socialization of adolescents is social capital. Social capital refers to bonds made between both individuals and groups that are created from the numerous daily interactions that take place between people, groups, families and networks (Nutbeam, 1988; Kunitz, 2004). The stronger the bonds are experienced, the more likely individuals will cooperate for mutual benefits. Therefore strong social capital may create good health as it increases positive actions towards health as close friends, supportive family and good colleagues are viewed as a source of health (Putnam, 2000; Lezin *et al.,* 2004). Family social capital is derived from family relationships and has been viewed by Coleman (1988) as a product of the strength of the relationship between parents and adolescents. Social capital

may have a protective impact on health by providing social support as a buffering agent against stressors, by influencing health behaviours and by providing the individual with a sense of coherence and meaningfulness created through social participation (Berkman & Glass, 2000; Kawachi & Berkman, 2000).

Masten and Shaffer (2006) have described several models (Table 2.1) that demonstrate how family processes, functioning and actions, both positive and negative, directly influence child behaviour and development and therefore can also impact on the development of positive health.

Table 2.1: Models and examples of family functioning

Models of family functioning	**Examples of family influence on family functioning**
Model of direct family effects	The family directly has an effect on outcomes. May be considered as assets (e.g. healthy eating habits) or risks (e.g. parents smoking indoors).
Model of mediated indirect family effects	The influence the family has on the child may be indirectly mediated by an intervening factor and the processes the factor represents (e.g. parents income level).
Model of family as mediator	The family functions as mediator for risk factors that may have effect on the child (e.g. during economic hardships).
Model of complex mediated family effects	The family produce simultaneously a variation of risks, assets and opportunities influencing development of the same child (e.g. bad genes, access to good schools).
Model of family as moderator	The family functions as a moderator, altering the effect of adverse conditions or factors influencing the child. Functioning as a moderator involves interaction, the impact of adversity depends on family functioning. The family is conceived as a protective factor when the effect is positive; however families may also further the negative impact of a risk factor (e.g. changing of eating habits that help avoid or enable diabetes).
Model of transactional family-child effects	The family influences child behaviour and development as a result of dynamic and complex interactional patterns of bi-directional family functioning that take place on multiple levels and during a longer period of time (e.g. a child with ADHD challenges through its behaviour the parents parenting skills, which in turn results in more consistent routines in the home leading to a calmer child).

Source: Masten and Shaffer 2006

Much research has been conducted on the exposure to positive and negative family influences on adolescent wellbeing (Aufseeser *et al.,* 2006). Hubbert (2009) claims that positive relationships are important for wellbeing. Supportive healthy parent-adolescent relationships and positive communication between parents and adolescents have been found to play important roles as determinants of health through shaping cognitive, emotional and social functioning important to health and a protective factor against engaging in risk behaviour (DiClemente *et al.,* 2001; McNeely *et al.,* 2002; Moretti & Peled, 2004). It is important to remember that families vary, as do factors and life experiences that affect families. It is possible that a family will employ several models of functioning influencing positive development (Masten & Shaffer, 2006).

2.5 Theoretical perspectives related to health in the family context

Multiple characteristics must be examined when attempting to define the health of any family or what affect the family has on the individual members' health status. The health of the family is constructed through interactive processes, developmental processes, coping processes and health processes. These processes include family communication, family transitions, adaptation to life stressors, family health beliefs, the health status of family members, health responses and practices, lifestyle practices, and health care provision during illness and wellness (Anderson, 2000; Davidson, 2002).

Family health and family health promotion are not interchangeable concepts. The concept 'family health' is, like the concepts 'family' and 'health', defined in many ways depending on the paradigm from which it is examined. Family health promotion is seen as a reciprocal multidimensional construct, interacting with internal family processes and external factors, resulting in enhancement of the family's wellbeing (Bomar, 2004). In contrast family health is systematic and process-based. Family health is complex, both as a concept and a construct, as it consists of numerous significant variables that are influenced by individual differences, family interaction and communication patterns that in turn are influenced by both the social and cultural context the family is situated in (Denham, 2003). Theories that take a health promoting perspective, including family health theories, are often interdisciplinary with influences from social, physical and behavioural sciences, and epidemiology (Glanz & Rimer, 2005). Family theories and theories concerning health in the family facilitate in guiding researchers in their studies on family health and health promotion through linking the concepts of family health, family functioning, family development, family structure and family systems (Davidson, 2002). Some family theories view individual development over

the life span in the context of families, some consider the dynamics of relationships between family members, some predict family behaviour, while others view the forms and functions of families as a social unit in society or as a subsystem in society (Klein & White, 2008; Denham, 2003). Health is viewed as being reciprocal; influencing and being influenced by the social environment (Bandura, 1986). According to Glanz & Rimer (2005), explanatory and change theories and models are important to health promotion as they facilitate understanding and evaluation of health behaviours, dynamics and processes. Contemporary health promotion theories and models are grounded in an ecological perspective based on the social determinants of health and health behaviours. Ecological theories regard the person and environment as being linked through active processes of reciprocal influence and change (Glanz & Rimer, 2005).

Family theories can be viewed as having macro- and micro-level theoretical perspectives. According to Hammond & Cheney (2009) and Seccombe (2012) structural functionalism, conflict theory and feminist theory are often considered macro-level theories. A macro-level perspective of the family takes into account ways in which marriage, families, and intimate relationships are interconnected with the rest of society as well as with other social institutions (Seccombe, 2012). Social exchange theory, symbolic interaction theory, developmental theory and systems theory are often considered micro-level theories focusing on other properties, such as relationship dynamics or processes in family life (Hammond & Cheney, 2009; Seccombe, 2012). Each theoretical perspective provides family research with a unique and diverse insight into family life. Schaffer & Kipp (2010) talk about theoretical eclecticism, suggesting that blending of different theories may emphasize different aspects of the family and family functioning. In order to be useful in understanding the numerous and intricate behaviours and relationships affecting families and family health, theories must operate at several different levels. Smith & Hamon (2012) claim that the use of several family theories is required in research, as it is otherwise difficult to develop a comprehensible description of family processes. This is due to the numerous perspectives to consider such as looking beyond the individual to the complex relationships between individuals, especially as there is more than one type and definition of family. Denham (2003) claims that it is unlikely that a single theory can fully describe family or capture all of the variables relevant in the development of family health as different theories address various family life aspects answering diverse questions, therefore offering insights into family life that other theories cannot provide due. Therefore, it could possibly be a viable and realistic solution to combine different models that will facilitate the understanding of the many perspectives, worldviews and paradigms believed to influence the health and wellbeing of adolescents and their families.

2.6 Antonovsky's theory of Salutogenesis

Antonovsky (1979; 1987) developed and introduced a theory and a research perspective, salutogenesis, that focused on developmental processes and modifying of behaviours that may lead to health and wellbeing. Salutogenesis does not claim that health is an absolute state but raises the question of how we can become healthier and less ill. Antonovsky rejected the traditional dichotomization of health and disease stating that health is a resource that we all, to some extent possess. According to Antonovsky (1987) people are located on a continuum where (health) ease and dis-ease are the two poles of the axis and health is proposed as movement along this continuum. Antonovsky claimed that people move throughout their lifetime between these two poles and none of us can be categorised as either completely healthy or completely ill.

Where previous health research studied different factors and conditions that most likely to lead to ill health, Antonovsky (1979; 1987) sought to explain that factors promoting health are different from those modifying the risk for specific disease. Therefore the main focus should be on the adaptive coping mechanisms that would lead towards the salutogenic direction and regaining health. Salutogenesis offers a paradigm for thinking about resilience, illness and health that stands in contrast to the dominant pathogenic paradigm of health and medicine as it focuses on a wide variety of general factors that promote movement towards health. The salutogenic paradigm is not intended to replace the pathogenic one; its intention is to add the study of health to the study of disease (Antonovsky, 1979; 1987).

Salutogenesis is not the only prevailing theory explaining pathways to the development of positive health and wellbeing. Concepts explaining positive health and wellbeing are plentiful, with different disciplines contributing with concepts that may overlap with closely related concepts in other disciplines for example hardiness, resilience and inner strength (Geyer, 1997; Lundman *et al.,* 2010). Indeed, Antonovsky (1987) drew attention to several comparable concepts explaining health such as 'hardiness', 'a sense of permanence', 'domains of the social climate', 'resilience' which he thought included salutogenic elements and were related to his salutogenic theory. Almedom (2005) found that SOC is inclusive of the related concepts of 'resilience' and 'hardiness'. A Finnish study (Gustavsson-Lilius, 2010) on the psychological consequences of cancer endorses the belief that SOC and dispositional optimism are closely related health-promoting concepts, though it considers SOC as a higher order construct as SOC since seems to include other important elements besides optimism.

Salutogenic research has been carried out in several scientific disciplines such as medicine (Koushede & Holstein, 2009), psychiatry (Langeland *et al.,* 2006; 2007), psychology (Honkinen *et al.,* 2005), public health (Volanen, 2011), health sciences (Ray, 2013), nursing (Bergman *et al.,* 2012) and pedagogy (Kristensson & Öhlund, 2005; Al-Yagon & Margalit, 2006). Antonovsky's salutogenic principles have even been incorporated into architecture and design with an aim to build structures that make people healthier and happier (Dilani, 2008; Golembiewski, 2010). In the last decade there has been much research conducted with a specific focus on adolescence, Sense of Coherence and its relationship to health and wellbeing. A higher SOC score has in adolescents been associated with less frequent use of headache medication (Koushede & Holstein, 2009), better oral hygiene habits (Dorri *et al.,* 2010), less suffering from school related stress (García-Moya *et al.,* 2013), less psychosomatic complaints, and as a protective factor against ADHD symptoms (Edbom *et al.,* 2010). Adolescents with risk factors present in their lives were found to have lower SOC (Evans *et al.,* 2010). Having early childhood psychological problems was a predictor of poor SOC in adolescence (Honkinen *et al.,* 2009). Low SOC in adolescents was related to several negative health behaviours (Myrin & Lagerström, 2006) and twice as much self-reported illness (Nielsen & Hansson, 2007).

Despite plentiful research on salutogenesis several aspects of this research have been criticised and the evidence is conflicting. It has been criticized of being interchangeable with other concepts, being influenced and confused with emotionality and lacking in evidence of stability over time (Geyer, 1997). These issues have been reviewed by Eriksson (2007) and Lindström & Eriksson (2010) who have concluded that sufficient empirical research, both longitudinal and causal, has been undertaken to reinforce the indication that the salutogenic approach and the construct of SOC are important in giving new insights when focusing on health promotion and health research. However, Mittelmark & Bull (2013) disagree and claim that most salutogenic research has focused on disease endpoints. They believe that there has been a failure to stimulate 'health research' and that this has resulted in limited interest from researchers on the questions of how life experiences shape SOC or how social, cultural and historic contexts shape GRRs. They suggest that reasons could be the lack of consensus on the definition of health and that health-promoting research is harder to get funding for than for research on disease or disability. They have therefore proposed a modification of the salutogenic framework by replacing Antonovsky's health concept with the concept of 'wellbeing'. They reason that wellbeing is broadly conceptualised and defined in many ways but always as a positive attribute, as opposed to the concept of health.

2.6.1 The components of the salutogenic framework

Antonovsky's (1979) theory and research perspective, on salutogenesis, focus on developmental processes and behaviour modification that may lead to health and wellbeing. Antonovsky (1979, 1987) developed the concepts Sense of Coherence (SOC) and Generalized Resistance Resources (GRRs) as the main components of his salutogenic theory believing that these concepts are central to explaining both health maintaining and health promoting processes leading to improved health. According to Antonovsky (1979; 1987) 'Sense of Coherence' can be comprehended as the individual's ability to understand their situation in life and have the capacity to assess and use resources available that will enable to facilitate movement towards a health promoting direction. Originally Antonovsky (1979, p 10) defined the Sense of Coherence as

> *'...a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic, feeling of confidence that one's internal and external environments are predictable and that there is a high probability that things will work out as well as can reasonably be expected'.*

Antonovsky (1979; 1987) measured the Sense of Coherence through the subcomponents of Comprehensibility (Co), Meaningfulness (Me) and Manageability (Ma). The combined score from these subscales equals the individuals' SOC, with a high score equating to a strong SOC and the assumption that a strong SOC facilitates movement towards health. An individual with strong SOC will most likely find motivation to cope (meaningfulness), have the ability to understand the challenges of everyday life (comprehensibility) and also have confidence in the availability of resources to help cope with the situation (manageability). A strong SOC leading to improved health is the result of psychological, social, cultural and historical situations and conditions that provide developmental strengthening experiences.

According to Antonovsky (1979; 1987) comprehensibility, manageability and meaningfulness are enhanced through available resources in our environment and repetition of everyday life experiences, thus promoting and helping maintain a strong SOC. These resources he coined as General Resistance Resources (GRRs) claiming they promote development, create life experiences and empower the individual to anticipate and manage various stressors more effectively. GRRs can be defined as any physical, biochemical, artificial, material, cognitive, emotional, value-established, intrapersonal, interpersonally related or macro-socio-cultural related characteristic of an individual, primary group, subculture, or community that functions effectively in making sense of and combating stressors that we are constantly exposed to. GRRs can be internal, for example intelligence, good genes, self-esteem and learnt coping skills or external, for example money, education,

social relationships, work and safe living environment. Possessing GRRs may improve health and thus a lack of GRRs may result in creating stressors and therefore be detrimental to health. Antonovsky (1987, p19) explicated the components of Sense of Coherence by changing the definition of Sense of Coherence to:

> *'a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that (1) the stimuli deriving from one's internal and external environments in the course of living are structured, predictable and explicable; (2) the resources are available to one to meet the demands posed by these stimuli; and (3) these demands are challenges worthy of investment and engagement'.*

According to Vinje & Mittelmark (2006) SOC can be seen as both a resource for and product of lived experiences. It is part of a hermeneutic circle that can self-tune, transforming itself into new experiences through introspection and reflection on past experiences.

Although a great deal of research has been conducted using the SOC scale on health and health behaviours only few studies have used SOC as a dependent variable to help to explain the concept (Olsson *et al.,* 2006). Many empirical studies focus on SOC by relating SOC to health variables such as physical symptoms (Buddeberg-Fisher *et al.,* 2001; Larsson & Kallenberg, 1996; Nilsson *et al.,* 2000), psychological functioning (Ying *et al.,* 1997), and mental health (Langeland *et al.,* 2006; 2007). Studies suggest that SOC both predicts and affects health (Sagy & Antonovsky, 1990; Suominen *et al.,* 2001). A strong SOC has been found to correlate with positive health related behaviours such as less alcohol consumption, smoking and drug use (Andersen & Berg, 2001), better diet habits (Ray *et al.,* 2009), engaging in regular exercise (Hassmén *et al.,* 2000) and well-maintained oral health (Freire *et al.,* 2001; 2002; Savolainen *et al.,* 2004; 2005). Research over the human life-course has shown that people with a strong Sense of Coherence are more inclined to engage in healthier behaviour, withstand stress and acute and chronic disease better, perceive their health and mental health as better as well as live longer and enjoy an enhanced quality of life. However, having a strong SOC is not the equivalent to being healthy. Differences in health are also explained by age, gender, social support and education (Antonovsky & Sagy, 1986; Antonovsky, 1987; Cederblad & Hansson, 1996; Kristensson & Öhlund, 2005; Räty *et al.,* 2005; Eriksson & Lindström, 2006; Simonsson, 2008). Gender as a variable is related to differences in the Sense of Coherence both in adults and adolescents, where females have been found to have a lower SOC (Buddeberg-Fischer *et al.,* 2001; Nilsson *et al.,* 2007). Low-income working class women were according to Antonovsky (1987) at risk for low SOC, with class and gender differences equally contributing to differences in SOC. Antonovsky (1987) did not explicitly examine the role of gender in his theory, but suggested that life could be managed, comprehended as well as experienced as meaningful through

gender socialization. He also declared that resources promoting SOC might be unfairly available and distributed between genders and therefore create social and health inequalities. Although the focus of this study is not gender socialization it is vital to acknowledge that this may have played a role in the development of SOC of the young people in this study. A Finnish study (Volanen *et al.,* 2004) concluded that factors contributing to SOC are equal for men and women, thus producing similar levels of SOC amongst both genders. However, in several studies adolescent boys have been found to have higher SOC scores than girls (Antonovskys & Sagy, 1986; Cederblad & Hansson, 1996; Myrin & Lagerström, 2006; Marsh *et al*., 2007; Honkinen *et al*., 2008, Mosley-Hänninen, 2009). Hansson & Olsson (2001) propose that boys tend to overrate themselves whereas girls underrate themselves. It has also been suggested that SOC is a malleable construct that changes over time, especially for girls in adolescence (Marsh *et al.,* 2007). Other suggestions include that the attributes and expectations awarded the roles for girls in adolescence are less clear than those for boys (Antonovsky & Sagy, 1986), and that girls are more conscious of inner conflicts (Honkinen *et al*., 2008).

Antonovsky (1987) was somewhat inconsistent regarding the stability and the dynamics of Sense of Coherence. He stated that the development of SOC starts at birth, and develops during childhood and adolescence. Antonovsky & Sagy (1986) stated that individual SOC increases in strength during adolescence. García-Moya *et al.* (2012) have in their study found that younger adolescents were in possession of a higher SOC scores than older adolescents. However, Moksnes *et al.* (2012) found that an initial decrease in girl's SOC scores between age groups of 13-14 and 15-16 year olds was followed by an increase in SOC between age groups of 15-16 and 17-18 year olds. Boys had a continuous drop in SOC scores between 13-14 year olds and 17-18 year olds. However, as many studies have reported a stronger SOC score in men than in women (Larsson & Kallenberg, 1996; Suominen *et al.,* 1999; Eriksson, 2007) it is possible to speculate that an increase in the SOC of boys takes place at a later stage of adolescence. This is feasible bearing in mind that girls enter puberty on average two years earlier than boys (Archibald *et al.,* 2008). Antonovsky claimed (1979; 1987; 1996) that at the age of thirty SOC is more or less stabilized, because most people at this age do not go through major changes in life that will affect the strength of the Sense of Coherence. Research by Feldt *et al*. (2011) and Nilsson (2003) supports Antonovsky's theory suggesting that SOC is more stable among high SOC individuals than among persons with low SOC. However, Feldt *et al.* (2003) found that individuals younger than 30 did not differ in stability of SOC compared with individuals over 30 years of age. Volanen *et al*. (2007) claim that a person's SOC decreases due to negative life events regardless of its strength before the event and argue that a strong SOC is no more stable than

initially mediocre or weak SOC. Some research contradicts some of Antonovsky's assertions. It has been hypothesized that the stability of SOC may also depend on both present and past life experiences. It has also been argued that a person's SOC may not be as stable across the lifespan, as Antonovsky had originally theorized, but that SOC may increase with age (Larsson & Kallenberg, 1996; Eriksson & Lindström, 2005; Nilsson *et al*., 2010). Billings & Hashem (2010) suggest that Sense of Coherence is affected by developmental factors, and therefore an older person's SOC is influenced and determined by prior life experiences throughout the lifespan. According to Antonovsky (1987) and Sagy & Antonovsky (2000) living conditions in childhood and adolescence are important to the development of SOC. Therefore it is important to study developmental factors and family processes that may be vital to the development of a strong SOC.

2.6.2 Sense of Coherence in the family context

Antonovsky (1979; 1987) claimed that Sense of Coherence is a construct that can be applied to an individual as well as to a collective. However, he and many others have treated SOC as a characteristic of an individual. Antonovsky (1987) believed that the collective Sense of Coherence is conceivably a significant factor in determining and transforming family members' individual Sense of Coherence. It is feasible that a family member with a strong Sense of Coherence may provide support and facilitate utilization of resources needed to cope successfully with stressors. This is thought to be true especially in children and adolescents due to individual and familial developmental processes (Antonovsky, 1987; Näsman, 1998; Honkinen *et al.,* 2008; Volanen, 2011).

Close relationships are important in establishing beliefs, values and behaviours (Darling, 2007). Parents act as primary role models for their children by modelling behaviours and providing messages that are consistent with their own personal beliefs or worldview (Rodgers & Chabrol, 2009). According to Antonovsky (1979; 1987) the collective Sense of Coherence can be referred to as having a collective perception or 'worldview' of ideas and beliefs through which an individual interprets the world and interacts within it. Each persons 'worldview' is shaped reciprocally through thoughts, behaviour and interaction with others influenced by culture, beliefs, education, family, and experiences. The understanding of a collective Sense of Coherence was initiated through Antonovsky and Sourani's (1988) study measuring two individuals' (spouses) perceived coherence of family life. For this study the 'Family Sense of Coherence Scale' was constructed using questions from the original questionnaire, designed to measure individuals' SOC. Questions from the original questionnaire were rewritten or constructed in order to identify how respondents perceived

family life as comprehensible, manageable or meaningful. Sagy & Antonovsky (1992) continued focusing on the SOC in the family, claiming that a family's SOC is not identical to the SOC of its family members and cannot therefore be observed as clearly as the individual SOC. They suggested it was possible to define the family as a unit or collective with either a strong or weak SOC which represents the family's worldview and proposed four alternative models (Table 2.2) as possible measures for FSOC. Antonovsky & Sourani (1988) and Sagy & Antonovsky (1992) originally labelled the collective Sense of Coherence found in the family as Family Sense of Coherence (FSOC). However, in recent research the term Sense of Family Coherence (SOFC) has been used as this is perceived as giving a more accurate insight into the individual's sense of their perception of how they experience the Sense of Coherence within the family (Sagy & Dotan, 2001; Wickens & Greeff, 2005; Kulik, 2009).

Table 2.2: Models for measuring Family Sense of Coherence

The aggregation model	The collective is an averaged sum of its individuals. The mean of the individual SOC scores is the unit score.
The pathogenic model	Perceives the collective as characterized by the weakest members SOC score.
The salutogenic model	Perceives the collective as characterized by the strongest members SOC score.
The consensus model	The model is based on the assumption that agreement improves the ability of coping and resistance. The gap between the unit scores is the operational measurement.

Source: Sagy & Antonovsky 1992

Shared belief systems and the effect they have on the conception of the world around them was not novel to Antonovsky (1987). Freud (1912) introduced the concept 'transference' implying that a person's past experiences colours his view of his current life situation (Freud, 1912 cited in Andersen & Berk 1998, p. 81). Kelly (1963) proposed that individuals are in possession of a personal construction of their world built through experience and Reiss (1981) used the term 'family paradigm' to define the shared beliefs and family views that every family has. Shared belief systems are constructed through continual communication, both verbal and non-verbal. Families, who spend a considerable time interacting and communicating with each other as well as sharing similar experiences, develop over time congruent, but not always unanimous, patterns of beliefs that influence choices and shape patterns of family life (Dallos, 1995; Spagnola & Fiese, 2007).

Perhaps the closest related theoretical framework to Sense of Coherence in the family is found in the concept of 'family paradigms' (Reiss, 1981; Day, 2010) that is also based on a family systems concept and which Antonovsky (1987) agreed was a comparable concept. The family paradigm is, according to Reiss (1981), seen as a consolidation of the family's shared interpretation of collective social situations, dictating how the families may in future interpret events and behaviours that take place in their environment. Families are seldom conscious of these paradigms as they are constructed over a long period of time and through complex processes. Family paradigms are differentiated through *'coherence'* (how the family perceives the world), *'integration'* (how the family perceives the access its members have to the underlying processes) and *'reference'* (the understanding of where the stimuli come from). Day (2010, p143) contends that family paradigms play a key role in the managing processes of a family and she defines a family paradigm as:

> *'the enduring, fundamental, shared, and general assumptions families develop about the nature and meaning of life, what is important and how to cope with the world they live in'.*

It is possible to conceive a relationship between Day's definition of family paradigms to the Meaningfulness, Comprehensibility and Manageability components of Sense of Coherence.

Other concepts exist within the Salutogenic framework that could be considered similar to the Sense of Family Coherence, although they are not quite analogous. Perhaps the most familiar and researched concept explaining the family's collective ability to withstand and rebound from adversity is 'Family resilience' (Walsh, 1996; 1998; 2002). Family resilience has been described as the ability of a family to respond positively in adverse situations and emerge from them feeling strengthened, more resourceful, and more confident than was in its preceding situation (Simon *et al.,* 2005). Almedon (2005 p 257) summarizes resilience as:

> *'influenced by experiences and life circumstances during early life, childhood, adolescence and adulthood. These do not necessarily determine later life outcomes, but they may, in combination, serve to create a chain of indirect linkages that foster escape from adversity'.*

However, Almedon (2005) and Lindström & Eriksson (2010) argue that the major difference between Sense of Coherence and resilience is that Antonovsky starts by referring to a positive outcome while resilience, grounded in psychopathology, starts by recognizing the risk for a negative health outcome. Nonetheless, Eriksson (2012) has included the concept resilience under the 'salutogenic umbrella'.

There is to date, limited research on the collective Sense of Coherence in the family. Studies have tended to use the individual SOC measure to describe the effect that SOC has on family

life (Sagy & Antonovsky, 1992; Anderson, 1998; Haour-Knipe, 1999; Wickens & Greef, 2005). However, a small number of studies have used the Family Sense of Coherence Scale, consisting of a longer version with 26 questions (Antonovsky & Sourani, 1988; Anderson, 1998; Sagy, 1992; Kulik, 2009; Ji *et al.,* 2010) and a shorter version with 12 questions (Sagy, 1998; 2001; 2002; Kulik, 2009). There have also been studies using the individual SOC measure to describe the effect that Sense of Coherence has on family life (Haour-Knipe, 1999; Wickens & Greef, 2005; Sagy & Antonovsky, 1992). Only a few studies have focused on the central question of the existence of a collective Sense of Coherence in the family and how individual SOC is influenced by other family members' SOC (Sagy & Antonovsky, 1992; Antonovsky & Sourani, 1988; Haour-Knipe, 1999; Kulik, 2009). In a recent systematic review, consisting of sixty-eight research articles focusing on SOC in an adolescent sample, Rivera *et al.* (2012) found that only a third of the articles included the developmental context. The results from the review showed however that family has a significant influence on the adolescents' SOC in either a positive or negative way. These results correspond with the results found by García-Moya *et al*. (2012) in their study using the Spanish 2009/2010 HBSC study (health behaviour in school children). Not only was the importance the family has on the development of SOC during adolescence highlighted, it was also suggested that affection, ease of communication, parental knowledge, frequency of family activities, relationships between parents, affluence and perceived wealth are factors in the development of a strong adolescent SOC.

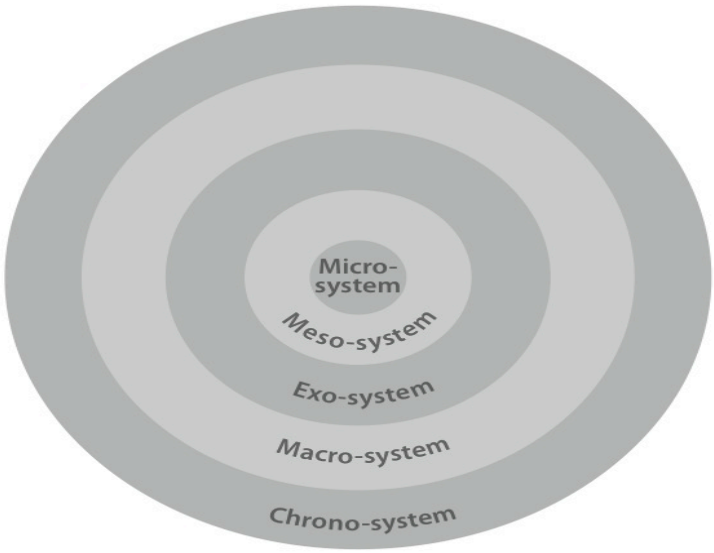
The findings of García-Moya *et al*. (2012) support the claims made by Antonovsky (1987) and Sagy & Antonovsky (2000) of the importance of childhood living conditions to the development of Sense of Coherence. One study has found that adolescents living with both biological parents tend to have a stronger Sense of Coherence than others, possibly due to the family representing a major resource in the life of a developing child (Honkinen *et al.,* 2008). In a study on the development of SOC (Feldt *et al.,* 2005) parental child-centeredness was found to have both direct and indirect relationship with adult SOC. Sagy and Antonovsky (2000) found that individuals who played an active participatory role in decisions and who had emotional closeness to family members from childhood developed a high SOC. Volanen *et al*. (2006; 2007) have suggested that psycho-emotional factors such as strong and close social ties to family and friends in addition to favourable childhood living conditions are more strongly associated with a stronger SOC than a person's socioeconomic position. Volanen (2011) also found that negative childhood experiences, such as living in fear of a family member or having a bad relationship with both parents, were detrimental to the level of SOC in both genders. She suggests that one's perception of the world as an accessible, meaningful and controllable place, in other words one's SOC, may be weakened

when living in a difficult and unsatisfactory relationship without the possibility to influence and improve it.

2.7 Bronfenbrenner's ecological systems theory of human development

The second theoretical framework that this study rests upon is Bronfenbrenner's (1979) ecological theory of human development. Bronfenbrenner developed his ecological systems theory and ecological model of human development by combining general principles of ecology, general systems theory, and human development. Human ecology theory is one of the earliest theories of the family. Human ecology theory, regards the person and environment as being linked through active processes of reciprocal influence and change. In the human ecology theoretical framework biological, social and physical aspects of individuals are studied within the context of their environment (Bronfenbrenner, 1979; Bubolz & Sontag, 1993). Bronfenbrenner (1979; 1986; 1994) used in his ecological model the analogy of Russian nested dolls to illustrate how the individual, the family, the community and culture are interrelated, yet independently functioning spheres within the next spheres (Figure 2.3).

Figure 2.3: The embedded environments of the ecological model



Source: Bronfenbrenner 1979

Bronfenbrenner's (1979) ecological model facilitates the understanding and explaining of individual differences in cognitive, biological, and social-emotional development that are found in the context of relationships between individuals and the many environments which they inhabit. The environments of development are micro-systems, the meso-system, the exo-system and the macro-system, each describing proximal and distal settings of human development as well as the chrono-system that describes the patterning of environmental events and transitions over the life course. The micro-system is the setting and environment of our lives where we have bi-directional social contacts with family, friends, school and other people. The meso-system is comprised of processes and relationships between the different components of the microsystem. The exo-system refers to the setting where community level influences affect the individual despite the individual not playing an active role in that setting. The macro-system is the broadest contextual system, the actual culture of an individual. The chrono-system includes the history of an individual as well as the transitions and shifts in the individual's life (Bronfenbrenner, 1979; 1995). Bronfenbrenner's theory has been criticised as a difficult explanatory model to apply in an objective way, as the extensiveness of the model suggests that practically everything within an individual's developmental environment could potentially play a role in their development (Andersson, 1986; McLeroy *et al.,* 1988).

Bronfenbrenner and colleagues (Bronfenbrenner & Ceci, 1994; Bronfenbrenner & Morris, 2006) further developed the ecological model into what now is known as the bioecological model or the Process-Person-Context-Time model (PPCT). The PPCT-model focuses more on proximal processes, the individual and his/her dispositions, the interaction between the individual and the environment and the time dimension. Long lasting and relatively regularly occurring interactions that are significant for the individual's development are defined as proximal processes (Bronfenbrenner & Morris, 2006). In Bronfenbrenner's earlier studies (Bronfenbrenner & Ceci, 1994) the importance of a person's biological and genetic attributes was acknowledged whilst later in his PPCT model more attention was paid to the personal characteristics that have significant influence on proximal processes thus effecting development throughout the lifespan. The characteristics were categorized as: *'force, resource and demand characteristics'.* Force characteristics are conceived as behavioural dispositions that both set in motion and sustain the operation of proximal processes. Resource characteristics are conceived as characteristics that relate to mental and emotional resources such as past experiences, skills and intelligence as well as to social and material resources skills. Resources are required to ensure the effectiveness of proximal processes in different states of development. Demand characteristics such as age, gender, skin colour and physical appearance may function as immediate stimuli to another person, either facilitating or impeding proximal processes (Bronfenbrenner & Morris, 2006). The bioecological or

PPCT-model has however been criticized as lacking any explanation of how specific biological factors contribute to development (Schaffer & Kipp, 2010).

The context in the PPCT-model consists of the interrelated systems that were defined in the original ecological model, however in the PPCT model a greater emphasis is placed on the interaction between the person and the environment (Bronfenbrenner, 1986; 1995; Bronfenbrenner & Morris, 2006). The '*micro-system'* consists of the important individual and interpersonal relationships at home, in school, with peers and neighbourhood friends. Within the '*micro-system'* factors such as parenting skills, parental structures, parental social lives, home environment, grandparents, teachers, friends as well as time management may all play roles in possible variations of difference of development. The '*meso-system'* is not a setting; it consists of processes and factors that happen in relations, processes and interactions between the structures of the different contexts of the individual's microsystem. The developmental environment of the '*exo-system'* refers to external influences that affect the individual, such as school systems, parents' place of work or parents social networks. These are elements that impact on the development of SOC by interacting with the adolescent, despite the adolescent not playing an active role in these. The macro-system is the broadest contextual system in which relationships and activities occur. National customs, cultural values, economic patterns, social conditions of the culture in which the individuals live may influence interactions throughout the other layers. Macro-system influences can have both an abstract and complex impact on any health related experiences an individual has and how these are interpreted. The era we develop in together with our gender, race, ethnicity and political ideology may influence our beliefs, worldview, understanding of agendas and therefore ultimately our decision-making skills (Bronfenbrenner & Ceci, 1994; Bronfenbrenner & Morris, 2006). Developmental processes are likely to vary according to specific historical events that take place in the individuals' lives during different stages of development. Time plays a vital role in the PPCT-model and is divided into *'micro-, meso- and macro time'.* Micro-time refers to the continuity or discontinuity of specific activities or on going proximal processes, meso-time refers to the extent and consistency of proximal processes occurring during longer periods and macro-time refers to changing events in larger society (Bronfenbrenner, 1995; Bronfenbrenner & Morris, 2006).

It has been said that the context of people's lives determines their health (CSDH, 2008). Adolescents are susceptible to both risk and protective factors that may either enhance or threaten their health and wellbeing. These factors may be found on several levels; individual level, interpersonal level, organizational level and community level, and may either buffer against stressors and challenges or support resiliency of youth (Rew, 2005). For most children,

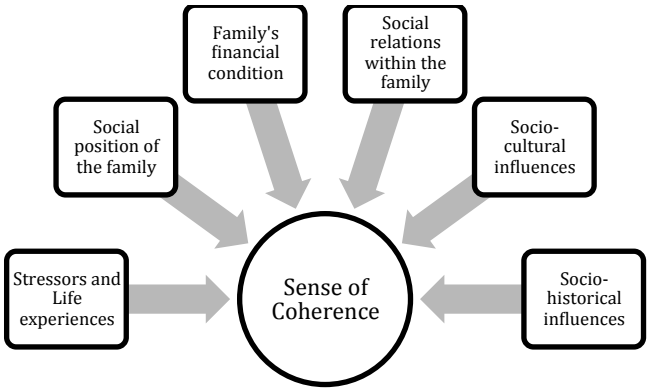
including adolescents, health related factors and behaviours are learned and experienced within the family context, with parents' attitudes and beliefs having a substantial effect on children's health (Denham, 1999; Tinsley, 2003). The family, however, is influenced by the broader social context that it is embedded in. Bronfenbrenner's (1979) ecological theory facilitates the understanding and explanation of individual differences of development that are found the context of relationships between individuals and the many environments that they inhabit. It acknowledges that people do not develop in isolation, but in relation to their family and home, school, community and society and that all of these ever-changing and multilevel environments, are crucial to development. Therefore it is a theory that can be used in the context of adolescent development just as well as in child development. Tudge *et al.* (2009) claim that despite Bronfenbrenner's bioecological theory being an extremely popular research framework, there is often a tendency to focus on development within a single environment, and not much research showing developmental influences occurring within several ecosystems as Bronfenbrenner had hoped. Schaffer (2009) describes Bronfenbrenner's ecological theory as a complement to, rather than a replacement for other developmental theories. This supports Bronfenbrenner's (1994; 1995) claim that the primary scientific aim of the ecological approach is not to obtain answers, but to provide a theoretical framework enabling the discovery, research and understanding of various processes, conditions and context that shape the course of human development.

Bronfenbrenner's ecological theory has been used in research on adolescence to explore factors associated with adolescent pregnancy (Corcoran *et al.,* 2000), parental influences on adolescent peer orientation and substance abuse (Bogenschneider *et al.,* 1998), parental monitoring and adolescent health behaviour (Jacobsen & Crockett 2000), adolescent alcohol misuse (Ennet *et al.,* 2008) and adolescent self-reported health literacy (Paek *et al.,* 2011). Bronfenbrenner's (1979) ecological theory has contributed to research within the salutogenic paradigm by influencing other theoretical frameworks, such as Lerner's (1996) model of 'developmental contextualism', used with the purpose of identifying strengths that children and adolescents need to reach their full human potential. Another approach to positive youth development grounded in ecological theory is the 'Developmental Assets Framework (DAF)', which emphasizes strengths and focuses on movement towards positive psychosocial development, health and wellbeing (Benson, 2003). It is therefore possible to conceive that Bronfenbrenner's ecological model can allow us to examine individual, interpersonal and contextual processes and factors influencing the development of SOC in adolescence.

2.8 An ecological perspective on the development of Sense of Coherence

The development of an individual's Sense of Coherence is complex. The salutogenic theory has been criticised for not having specific and sufficient data about the developmental conditions and processes involved leading to a strong Sense of Coherence (Geyer, 1997). Employing Bronfenbrenner's (1979) ecological model may allow us to gain a clearer and more in-depth understanding of the concept of SOC and the factors and processes related to family life relevant in promoting a strong adolescent SOC. According to Antonovsky (1987) factors that form and influence the development of individual SOC (Figure 2.4) during childhood and adolescence are *social relations within the famil*y, *stressors and life experiences, the social position of the family, the family's financial condition* and as well as *socio-cultural* and *socio-historical influences.*

Figure 2.4: Factors influencing the development of Sense of Coherence



Source: Antonovsky 1987

Sagy & Antonovsky (2000) explored, in a retrospective study, which structural characteristics of the family and which adolescent life experiences correlate with and influence the development of Sense of Coherence. Four types of life experiences within the family context were hypothesized to influence the development of SOC: *Consistency*, *Load balance, Participation in shaping outcomes* and *Emotional closeness* (Table 2.3). They hypothesized that these four factors would influence the family by setting limits and/or offering opportunities of interaction within the family context, therefore acting as GRRs by creating life experiences relevant in the development of adolescent SOC. The most important experiences in adolescence found contributing to the development of SOC were life experiences related to load balance, the manageability component. Their research found evidence that related participation in shaping results, the motivational component, to the development of SOC. However, no relationship was found between the development of SOC

and life experiences that were thought to be relevant to consistency. According to Sagy & Antonovsky (2000) the most likely explanation for this was the historical context. The majority of the interviewees were adolescents during World War II and some of them were Holocaust survivors. The adolescents had been living in an unstable world in which the future was not predictable. They concluded that the findings implied that early life experiences might shape later life orientations. However, an assumption was made that in a different society, during other circumstances, other life experience components may influence the shaping of one's worldview and development of SOC.

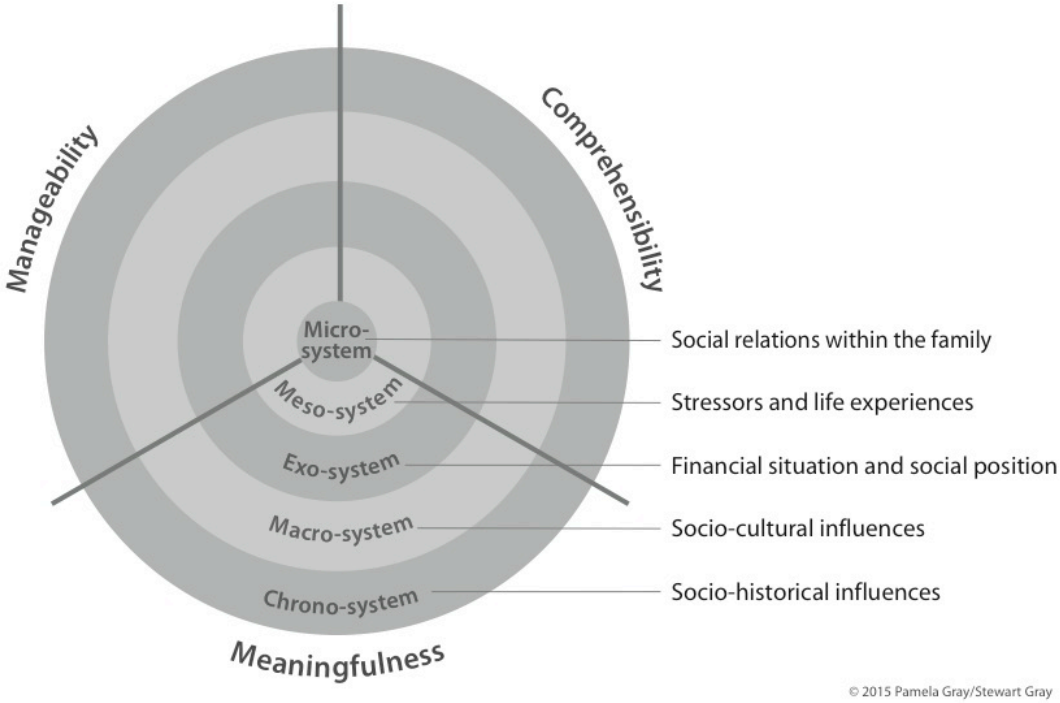
Table 2.3: Life experiences influencing Sense of Coherence

Components of Sense of Coherence	Life experience components
Comprehensibility is influenced by	**Consistency** Which can be perceived as the family having a clear value system and order and structure in the family environment as well as having rules and regulations
Manageability is influenced by	**Load balance** Which can be perceived as believing that there is an appropriateness between demands made upon one and one's resources Family coping
Meaningfulness is influenced by	**Emotional closeness** Which can be perceived as experiencing emotional bonds in the family facilitating one's sense of belonging **Participation in shaping outcomes** Which can be perceived as having autonomy whilst participating in family life as well as having a say in deciding on one's fate

Source: Sagy & Antonovsky (2000)

By applying an ecological perspective to the development of Sense of Coherence it may be possible to explore if Sagy & Antonovsky's (2000) assumption that there may be other life experiences than consistency, load balance, emotional closeness and participation in shaping outcomes that will have a greater influence on the components of comprehensibility, meaningfulness and manageability for adolescents and their families in the 21st century. Applying the factors that Antovosky (1979; 1987) claimed influence the development of SOC to Bronfenbrenner's (1979; 1986) environments of development (Figure 2.5) allows us to view contextual environments influencing family functioning and developmental processes within a family. The microsystem is the setting where *social relations within the family* take place. The meso-system is comprised of *stressors and life experiences* influencing SOC development. Factors and processes in the exo-system directly affect the *family's financial situation* and the *social position of the family*. The macro-system consists of *socio-cultural influences* that impact on the development of SOC, whereas *socio-historical influences* are part of the chrono-system.

Figure 2.5: Applying Sense of Coherence to the environments of development



Source: Antonovsky (1979; 1987) and Bronfenbrenner (1979)

The development of Sense of Coherence can be observed by examining how social processes in the family context influence and shape the separate subcomponents. The developmental process of SOC starts at birth, with interaction between parent and child. Children are active beings and according to Antonovsky (1987) function as important reciprocal socialization agents in the family, shaping outcomes important for *meaningfulness* through their behaviour. Baumeister *et al.* (2013) claim that in meaningfulness there is an element involving and understanding one's life beyond the here and now. This echoes Lerner's (1982) claim that bi-directional interactions between parents and children are seen as a source of the child shaping their own development. These claims support the findings Sagy & Antonovsky's (2000) findings that of the two factors they hypothesized important for development of SOC in adolescence, participation in shaping outcomes was found to be the most relevant.

According to Antonovsky (1987) *comprehensibility* is the product of stable life experiences provided by major attachment figures during infancy and childhood. A structured reality for the infant either exists or not, something the infant has no control over, resulting in the infant comprehending it as it is. This implies that if there is a lack of structure in the infant's life, comprehensibility will be low. Näsman (1998) suggests that comprehension comes through

having a language and assimilation of narratives that the family shares with the child and that meaningfulness is derived from the outcome of how the child experiences are being met, which in turn affects the child's sense of self and sense of the world. This is congruent with Dallos & Denford's (2008) claim that family members contribute to both individual and shared understandings about each other and it is believed that families throughout the course of their development, to some extent, create their own versions of reality based upon shared agreements that are created through language (Dallos, 1995). According to Vygotsky (1978) language develops from social interactions and therefore social interactions are important in the cognitive development of children. Vygotsky (1978) also claimed that having collaborative dialogues with both family and peers is an effective way of developing skills that can be applied to future settings and situations.

Antonovsky (1987) claimed that *manageability* is developed by gradually encountering progressive stress factors. According to Näsman (1998) positive family reactions to the coping strategies of the child and adolescent enforce desired behavioural coping patterns and contribute to enforce the feeling of manageability. Equally important is that the child or adolescent does not have to be solely self-sufficient but feel that they can depend on the parents and/or the family to comprehend and have resources to manage the environment. Sagy & Antonovsky (2000) found that believing that there is a balance between demands made and having resources available to meet them was one of the most important life experiences contributing to the development of SOC. In a study conducted by Lohman & Jarvis (2000) results showed that when a higher congruence was found between parents' and adolescents' perceptions of each other's stressors it was more likely that the family environment was cohesive and adolescents assumed more adaptive coping strategies. Some children, already at an early age, develop significant relationships with individuals outside the family. According to Resnick (2000) adolescent wellbeing is enhanced by connectedness found through adult relationships also outside of the nuclear family as this acts as a protective factor enhancing social skills development. Non-familial relationships can be influential in the development of a strong SOC and be beneficial in circumstances when the family is the source for chronic stress and the most likely outcome would be a weak Sense of Coherence due to the family's inability to handle stress and support the child's development of Sense of Coherence (Näsman, 1998).

The family and the life experiences therein (micro- and mesosystem) are often perceived as the main sources of influence on health beliefs and attitudes, and on health related behaviour patterns (Denham, 1995; 1999; Fiese *et al.,* 2011). However, the living conditions (exo- and macrosystem) of the child, adolescent and family also have an impact on the factors and

family processes that may be essential for the development of SOC (Antonovsky, 1987; Sagy & Antonovsky, 2000). Family health occurs within an economic and cultural context (Fiese *et al.,* 2011) and it has been suggested that the patterns of relationships that develop within multiple generations of families (chrono-system) are maintained when the individual transfers to a larger social system and ventures into new relationships. An individual's wellbeing is affected by not only relationships within the current nuclear family but is also influenced by the dynamics and processes between parents, siblings, grandparents, the community and the external world (Norris *et al*., 2003). Time was, indirectly, mentioned by Antonovsky (1979; 1987) when he claimed that the impact of generational experiences of historical events shape both families and the individual, hence indicating that time plays a role in influencing the development of SOC.

Hanson (2010) claims it is possible to view SOC as multidimensional construct by assigning dimensions of both time and space (Table 2.4). The space dimension can be described as having both abstract (philosophical and theoretical) and concrete (practical) levels of functioning that facilitate in the explanation of emotions, thoughts and actions that influence and are influenced by the Sense of Coherence. Recognizing Sense of Coherence as having a time dimension suggests viewing the present Sense of Coherence as being influenced by the past, and the future Sense of Coherence as being affected by choices made in the present.

Table 2.4. Sense of Coherence as a multidimensional construct

Philosophy	Ethics and values	Emotions	Meaningfulness
Theory	Concepts and understanding	Thoughts	Comprehensibility
Practice	What and how	Actions	Manageability

Source: Hanson 2010 p.88

2.9 Chapter summary

This chapter has provided a critical discussion of factors central to the development of Sense of Coherence in adolescents. First, the significance of public health policies and health promotion to adolescent health was discussed, then the family as a health socialization unit, this was followed by a discussion of the theoretical frameworks of Antonovsky's Theory of Salutogenesis and Bronfenbrenner's Ecological model of human development. The chapter concluded with a discussion on the development of SOC seen through the lens of Bronfenbrenner's ecological model of human development.

Chapter Three - Research methodology

3.1 Introduction

The previous chapter outlined the theoretical perspectives and family context relevant to the current study. The purpose of this chapter is to discuss the philosophy guiding this study as well as present the methodology and methods employed for data collection and analysis. This study used a mixed method design employing both quantitative and qualitative data collection and analysis methods. A description of the preparatory steps of the present study is provided, followed by conceptualization of the different types of data collection and data analysis procedures, and ethical issues are discussed.

3.2 Aims and objectives

This study aimed to explore, within a salutogenic and socio-ecological framework, the Sense of Coherence (SOC) in a sample of Swedish-speaking Finnish adolescents and their parents, and to explore the Sense of Coherence found in the family (SOFC). It also intended to explore how family life, as a health-promoting context, is associated with the development of Sense of Coherence in adolescents thus enhancing the health and wellbeing of adolescents.

The objectives of the study were to:

1) Examine the Sense of Coherence in a sample of Swedish-speaking Finnish adolescents and their parents to view possible differences and changes over a 3-year period.

2) Explore and identify individual, environmental and social factors and daily practices found in the family context that are perceived as important for health and wellbeing and may contribute to the development of Sense of Coherence.

3) Gain insight into the development of adolescents' Sense of Coherence within a family context to identify factors that could be attributed to differences in strength of Sense of Coherence and therefore be relevant to the development of a strong Sense of Coherence.

The study aims were met by conducting an exploratory study using a longitudinal integrative mixed methods design.

3.3 Philosophical approach

According to Greer (in Daly 2007, p.25) social science research rests upon three fundamental assumptions:

> *'1) That there is a world that exists beyond our senses that is knowable and that we do not fully control (objectivist but subject to our selective inquiry), 2) this world beyond our senses is knowable through a process of communication (interactive and constructed through subjective standpoints), and 3) we value knowing the results of our interaction (subjective) with that world (objective), and thus the value of accumulating knowledge of that world'.*

Our worldviews, containing basic sets of beliefs guiding our inquiries, are deeply rooted in our personal experiences, culture and history (Guba & Lincoln, 2005). The theoretical framework chosen by the researcher discloses the underlying philosophical assumption about the ontology and the epistemology that underpin the research. Ontology and epistemology provide the foundation for research, thereafter the methodology is selected and finally the method itself. Each provides the basis for the next (Crotty, 1998). Numerous worldviews exist, sharing common elements, taking their own stance on the nature of reality, how we gain knowledge of what we know and the role values play in research. This in turn influences the processes, the actions used and language of research (Creswell, 2003; 2007).

Two opposing ontological traditions exist: the Heraclitean tradition of 'becoming' with an emphasis on formlessness and chaos, and the Parmenidean ontology of 'being' that sees reality as being composed of clearly formed stable entities with identifiable properties (Gray, 2004). It is the latter that has influenced Western philosophy. When an entity becomes stable it can be represented by symbols, words and concepts resulting in an epistemology in which these words and concepts are viewed as an accurate representation of the external world. For example, objectivist epistemology believes there is an objective reality, so research focuses on discovering this objective truth. Positivism is a theoretical perspective that is closely related to objectivism. Constructivism on the other hand rejects this view of human knowledge believing that truth and meaning are created through interactivity with the world, resulting in people creating meaning in different ways even in relation to the same phenomena. Interprevitism is a theoretical perspective closely linked to constructivism (Creswell & Plano Clark, 2007; Bryman, 2008; Teddlie & Tashakkori, 2009). Both positivism and interprevitism are based on the ontological tradition of 'being' despite holding different epistemological positions (Gray, 2004). The two major research approaches have been seen as being in opposition, reflected in debates that took place in the 1980s and 1990s, in what have been described as the 'paradigm wars.'

Kuhn (1970, p10) described paradigms as:

> *'social phenomena in which accepted examples of actual scientific practice (examples which include law, theory, application, and instrumentation together) provide models from which spring particular coherent traditions of scientific research'*

and suggested that paradigms are incommensurable, because of differences in meaning, measurement and method of qualitative and quantitative research. However, the paradigm debate has moved on with researchers advocating an attempt to integrate quantitative and qualitative research methods, suggesting that the framing of research questions may be underpinned by both philosophical and pragmatic reasons (Teddlie & Tashakkori, 2009). Some researchers (Åsberg, 2001; Allwood, 2012) question the need to divide between the opposed research approaches, while others (Burke Johnson *et al.,* 2007; Creswell & Plano Clark, 2007; Teddlie & Tashakkori, 2009) believe it is still beneficial to distinguish between the separate paradigms. Qualitative and quantitative approaches both address the same research process elements. However, they are implemented differently and it has been suggested that they are on different ends of a continuum rather than being opposites (Burke Johnson *et al.,* 2007; Creswell & Plano Clark, 2007). Quantitative research is conducted within the positivist paradigm, primarily using numerical data and statistical analysis. It is conducted using large sample units and strives to generalize findings from the sample to the general population. It is of a confirmatory nature, driven by theory and uses deductive logic or reasoning. Theories are often used to generate propositions or hypotheses that can be then tested using statistical methods (Burke Johnson *et al.,* 2007; Creswell & Plano Clark, 2007; Teddlie & Tashakkori, 2009).

Qualitative research, in contrast, is conducted within the constructivist paradigm, primarily using narrative data and employing analysis that uses inductive logic or reasoning from the data to theory. Qualitative research is often exploratory in its nature and is used in generating new information about little known experiences and in the investigation and creation of theories. It is believed that qualitative researchers, individually and collectively, construct the meaning of the object of interest. Grounded theory, phenomenology, ethnography, action research, narrative analysis, case study, and discourse analysis are all approaches related to qualitative research methodology (Creswell, 2003; Patton, 2002; Teddlie & Tashakkori, 2009). Qualitative data are most commonly collected from observation, individual or focus group interviews and through responses from open-ended questions in surveys. The analysis of qualitative data can be done question-by-question or through identifying common themes, categories, patterns and relationships. Data may then be summarized and presented as written descriptions or pictorially represented as flowcharts, diagrams, and/or matrices (Miles & Huberman, 1994; Denzin & Lincoln, 2011; Guest *et al.,* 2012).

3.4 Mixed methods as a methodology for the current study

Mixed methods research has been established as a third methodological movement complementing the existing traditions of quantitative and qualitative movements (Creswell & Plano Clark, 2007; Teddlie & Tashakkori, 2009). Pragmatism is a philosophical approach often associated with mixed methods research, and offers an alternative worldview to the paradigms situated at extreme ends of the 'paradigm continuum' (Creswell & Plano Clark, 2007; Johnson *et al.,* 2007; Teddlie & Tashakkori, 2009).

Creswell and Plano Clark (2007, p5) have described mixed methods research as a:

> *'research design with philosophical assumptions as well as methods of inquiry. As a methodology, it involves philosophical assumptions that guide the direction of the collection and analysis and the mixture of qualitative and quantitative approaches in many phases of the research process. As a method, it focuses on collecting, analysing, and mixing both quantitative and qualitative data in a single study or series of studies. Its central premise is that the use of quantitative and qualitative approaches, in combination, provides a better understanding of research problems than either approach alone'.*

Pragmatism (Table 3.1) can be considered as a research paradigm that supports the use of different research methods as well as modes of analysis and reasoning. It rejects traditional dualisms (e.g. facts versus values) and recognises the importance of both the natural world and the social and psychological world. Pragmatism accepts, philosophically, that there are multiple realities and has no expectations of finding causal links or truths but aims to examine questions, theories or phenomena with the most appropriate research method. It therefore does not require a particular method or methods mix and does not exclude others (Johnson & Onwuegbuzie, 2004; Teddlie & Tashakkori, 2009).

Pragmatism, while being primarily guided by the researcher's desire to produce socially useful knowledge, acknowledges that knowledge produced through research is relative and not absolute, that even though there are causal relationships they are momentary and hard to identify. The acknowledgement of the unpredictable human element forces pragmatic researchers to be flexible and open to the emergence of unexpected data (Feilzer, 2010). A review of theoretical and empirical literature in regards to mixed methods designs conducted by Doyle *et al.* (2009) proposed that some reasons for doing mixed methods research were; the attainment of greater validity, the answering of different research questions, explanations of findings, counteracting weaknesses found in the different research strategies, developing and testing hypothesis as well as developing and testing instruments. According to Brannen (2005) mixed methods research presents both opportunities, such as skills enhancement as well as risks if the researcher is not sufficiently theoretically grounded at the start of the research.

Table 3.1: Contrast of paradigmatic dimensions

Worldview / Paradigm	Positivism	Pragmatism	Constructivism
Ontology	Singular reality	Both singular and multiple realities	Multiple realities
Epistemology	Distance	Practicality	Closeness
Axiology	Unbiased	Multiple stances	Biased
Purpose of research	(Often) Confirmatory plus exploratory	Confirmatory plus explanatory	(Often) Exploratory plus confirmatory
Methodology/ Role of theory	Deductive	Deductive / Inductive	Inductive
Methods	Quantitative methods	Mixed methods	Qualitative methods
Data analysis	Statistical analysis: descriptive and inferential	Integration of thematic and statistical; data conversion	Thematic strategies: categorical and contextualizing
Validity and Trustworthiness issues	Internal validity; external validity	Inference quality; Inference transferability	Trustworthiness; credibility; transferability
Rhetoric	Formal style	Formal or informal	Informal style

Source: Creswell & Plano Clark 2007; Teddlie & Tashakkori 2009

3.4.1 Rationale for choosing a fully integrated mixed methods design

It is important to reflect on several factors about the nature of mixed methods research before initiating a mixed methods study. First and foremost is the understanding of the philosophical underpinnings guiding the choices made, and the understanding of what constitutes a mixed method study, to determine if it is the best-suited research approach for the particular research. Second is the understanding of the core characteristics of a mixed methods study: the collection and analysis of both qualitative and quantitative data and the mixing of both types of data through merging, building, embedding or prioritizing the data (Creswell & Plano Clark, 2007). Creswell and Plano Clark (2011) state that in design and implementation, no two mixed

method studies will ever be identical, however they will follow key principles of mixed methods research to facilitate the research process. The primary principle is to choose an emergent or fixed design. Emergent designs imply that the use of mixed methods came about as a result of issues that arose during the research process if one method was considered as inadequate. Emergent designs are dynamic in approach taking into consideration multiple interrelated components of research design instead of selecting an existing appropriate design from a typology. Fixed designs are typology-based and denote that the use of quantitative and qualitative methods are planned at the start of the study and implemented as planned (Creswell & Plano Clark, 2011).

Research typologies have in the field of mixed methods several functions that facilitate the research process: they provide 'paths' or design types to be followed when designing the study, they establish a common language for the field, they provide the field with multiple organizational structures and they are useful as pedagogical tools (Creswell & Plano Clark, 2011). Several authors have expanded on the ways quantitative and qualitative research can be combined, by providing detailed criteria for creating mixed methods design typologies. It is not unusual for different disciplines to emphasize various aspects of mixed methods design or to use distinct terminology in illustrating discipline specific features. This is perceived as representative for the evolving nature of mixed methods research (Morgan, 1998; Onwuegbuzie & Collins, 2007; Tashakkori & Teddlie, 2009; Castro *et al.,* 2010; Creswell & Plano Clark, 2011).

As this study is underpinned by two frameworks representing different disciplines, health and sociology, an extensive review of research designs and typologies was undertaken in order to find the most suitable design. An additional factor, which influenced the choice of design and typology was that some of the data, from *wave I* of the study, had previously been generated in a Master's dissertation and the intention was to create new knowledge through expansion of the existing findings (Mosley-Hänninen, 2009). After taking all this into consideration it became apparent that the fully integrated mixed design, based on a typology developed by Tashakkori & Teddlie (2009) for the social and behavioural research discipline, was the design most suited for the study. Takkashori & Teddlie's (2009) typology is presented as a methods-strand matrix (Table 3.2) inclusive of the three research approaches. A strand is an element of the study that involves a procedure in conducting qualitative or quantitative research, such as collecting data or interpreting results (Takkashori & Teddlie, 2009).

Table 3.2: The Methods-Strand Matrix

Design type	Monostrand designs	Multistrand designs
Monomethod designs	Cell 1 Monomethod monostrand designs 1. Traditional QUAN designs 2. Traditional QUAL designs	Cell 2 Monomethod multistrand designs 1. Parallel monomethod a. QUAN + QUAN b. QUAL + QUAL 2. Sequential monomethod a. QUAN -> QUAN b. QUAL -> QUAL
Mixed method designs	Cell 3 Quasi-mixed monostrand designs 1. Monostrand conversion designs	Cell 4 Mixed methods multistrand designs 1. Parallel mixed designs 2. Sequential mixed designs 3. Conversion mixed designs 4. Multilevel mixed designs 5. Fully integrated mixed designs

Source: Tashakkori & Teddlie 2009 p.145

According to Tashakkori & Teddlie (2009) there are four basic methodological decisions to be made when choosing a design from the matrix. The first decision concerns the number of methodological approaches used, making a choice between monomethod or mixed methods design. In a monomethod monostrand design (Cell 1) a single research method or data collection technique is used, quantitative or qualitative, as are corresponding data analysis procedures to answer research questions employing one strand. A monomethod multistrand design (Cell 2) also employs a single method or data collection technique and corresponding data analysis procedures to answer research questions, however using two or more strands.

The second decision to be made is the number of strands in the design, either monostrand or multistrand designs. Mixed method monostrand designs (Cell 3) involve only one strand of a research study, including both qualitative and quantitative components. Monostrand conversion designs are single strand studies in which research questions are answered through an analysis of transformed data. Mixed methods multistrand designs (Cell 4) are the most complex designs in the matrix as they include at least two research strands. Mixing of qualitative and quantitative approaches may take place within and across all stages of the study (Takkashori & Teddlie, 2009). The third decision to be made is the type of implementation process involving mixing of quantitative and qualitative approaches and the fourth decision concerns at what stage of integration of approaches takes place.

Takkashori & Teddlie's (2009) fully integrated mixed design was reasoned to be the most appropriate design to employ as mixing of methods occurs in an interactive manner throughout all stages of this study. At each stage, one approach affects the formulation of the other, and multiple types of implementation processes occur. Employing a fully integrated mixed methods approach meant that in commencing this study there was an understanding that even though a preliminary research design existed there was always a possibility of changes to the following steps of data collection or analysis, due to the results generated from the previous data collection phase. In clinical practice I have come to view individuals as flexible beings, capable of modifying their behaviour to adapt when facing difficulties and adversity, which was reflected in the fully integrated mixed design chosen. The design's pragmatic approach also resonated with the theoretical framework of salutogenesis that this study rests upon, as flexibility and adaptability can be perceived as stress reducing actions or resources that facilitate movement towards a positive outcome.

3.4.2 Study overview

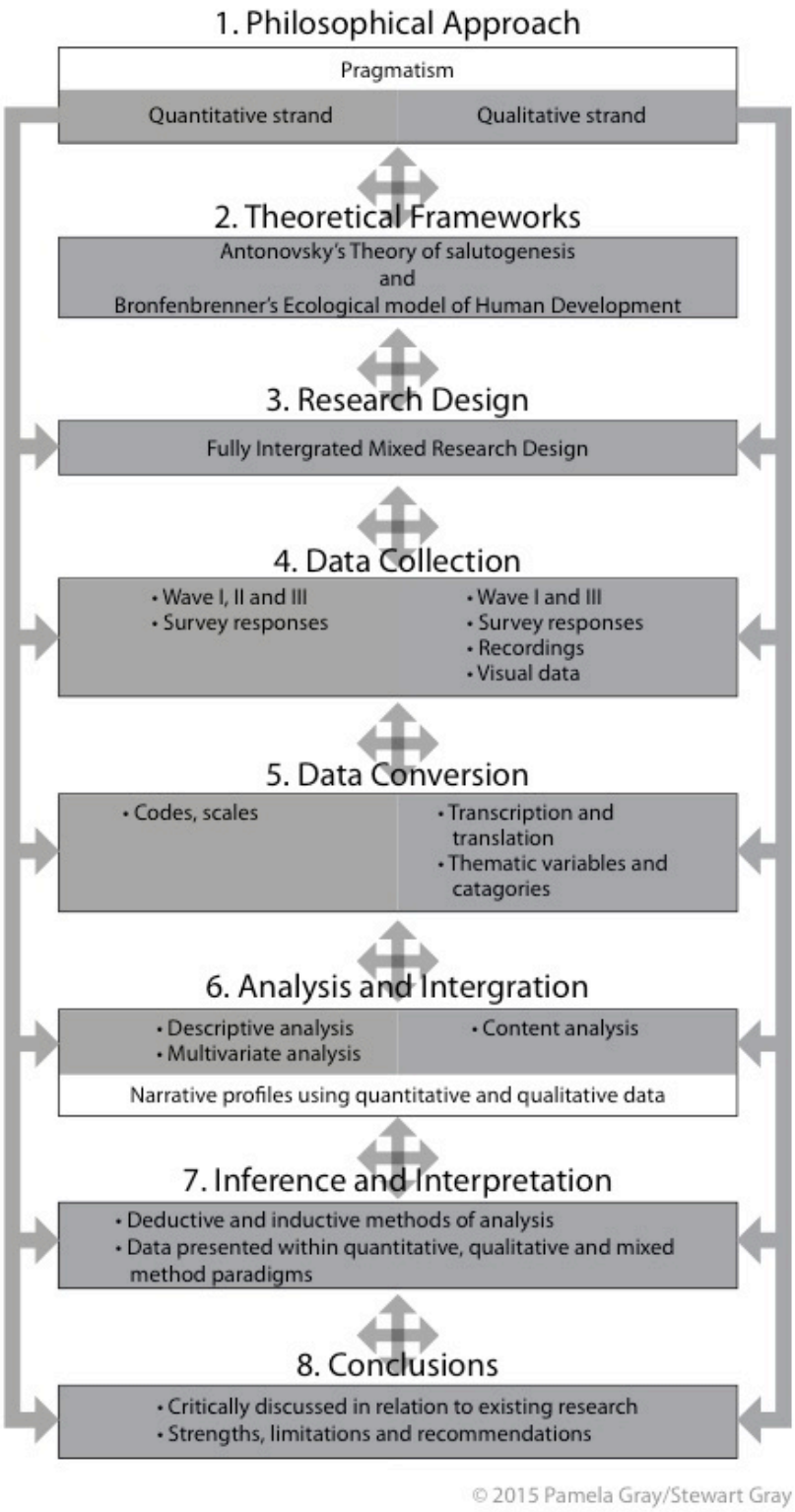
The flowchart (Figure 3.1), illustrates the composition and stages of the research study. The philosophical approach (step 1) for this study was influenced and guided by my background in both clinical nursing and narrative family psychotherapy. These disciplines represent different worldviews. Clinical nursing is closely related to the medical tradition with its roots in the positivist paradigm and narrative family psychotherapy is rooted in the constructivist paradigm, with its belief that reality is constructed by interaction between individuals and depends greatly on context. Therefore I deemed it important to examine questions, theories or phenomena with a pragmatic approach, incorporating both a qualitative and quantitative strand in the study. The choice of the theoretical frameworks (step 2) was made based on experience from health promoting clinical work, with adolescents and their families, which led to the initial proposal of research questions. A fully integrated mixed research design (step 3) was chosen. Mixing of both data and methods occurs in an interactive manner at all stages of the study. At each stage, one approach affected the formulation of the other, and multiple types of implementation processes occurred. This is illustrated in the flowchart using bi-directional arrows between the boxes displaying the stages of research.

Data collection (step 4) was conducted in several strands. *Wave I* was a predominantly quantitative survey aimed at both adolescents and parents. Analysis of the *wave I* surveys led to the further development of the survey for adolescents in *wave II* and also gave an incentive

to return to the literature to review Family Sense of Coherence when developing a semi-structured family life interview and choose genograms and eco-maps as data gathering tools. Analysis of the *wave II* survey and a tentative exploration of the family interviews led to the further development of the *wave III* survey with the decision to include a greater number of qualitative questions. Data conversion (step 5) and data analysis and integration (step 6) were preformed in the following way. Quantitative data were analysed using descriptive statistics. Qualitative data were transcribed and then analysed using thematic analysis (Boyatzis, 1998; Braun & Clarke, 2006) and content analysis (Krippendorff, 2004; Bryman, 2008; Elo & Kyngäs, 2008). Some qualitative data were then transformed into quantitative data (Teddlie & Tashakkori, 2009) and represented as descriptive statistics as this facilitates exploring and creating a complete understanding of both the static and dynamic aspects of the qualitative themes (see chapter 3.5.1 for in-depth description). Data integration took place by using both qualitative and quantitative data to present adolescent data and create family narrative profiles. Inference and interpretation (step 7) were reached through both deductive and inductive methods of analysis, and presented as data within quantitative, qualitative and mixed method research paradigms. Conclusion of data (step 8) is discussed critically in relation to existing research and to the chosen theoretical frameworks. Contribution to knowledge, implication for practice and policies, strengths and limitations of the study and recommendations for future research are also discussed.

This study was initially planned to consist of three repeated surveys with adolescents (*waves I - III*), two surveys with parents (*waves I* and *III*) and family life story interviews in conjunction with genograms and eco-maps. However, due to unforeseen problems during the data collection only three family interviews were conducted. During analysis it became evident that one of the interviews could not be used for ethical reasons because it would have been possible to identify the family. A decision was taken together with my supervisors to omit the findings from the interviews. The consequences this decision had on the study are discussed in depth in chapter 3.9 and chapter 6.4.

Figure 3.1: Flowchart illustrating the research process



3.5 Data sampling strategy and methods of data collection

According to Teddlie & Yu (2007) and Teddlie & Tashakkori (2009) there are several issues to be considered when planning a mixed method sampling strategy. Foremost is that the strategy stems logically from the research questions, and follows the assumptions of the sampling techniques used. Secondly the sampling strategy should generate both qualitative and quantitative data on the research questions and show that clear inferences can be made from both the qualitative and quantitative data. The sampling strategy should be feasible, efficient and ethical, and finally it should allow for transferability or generalizability of data analysis conclusions and be described in enough detail to facilitate understanding and possible replication for future studies. Mixed methods sampling requires basic knowledge and an understanding of sampling strategies within both qualitative and quantitative research designs. A mixed methods data sampling strategy combines quantitative and qualitative sampling techniques to answer research questions posed by a mixed method research design (Teddlie & Tashakkori, 2009). Mixed method studies are typically comprised of multiple samples varying in size generating both qualitative and quantitative data, thus allowing a data collection of both breadth and depth.

This study employed a sequential mixed method sampling strategy (Teddlie & Yu, 2007; Teddlie & Takkashori, 2009) that involved choosing participants for quantitative and qualitative strands of the study using purposive and probability sampling tactics one after the other (see Figure 3.1). The sampling frame for this study was Swedish language schools in the city of Espoo. A sample of 99 Swedish-speaking adolescents and their families was purposively selected to participate from one school. The primary rationale for choosing this sample was that in this specific school the middle school grades are comprised of students from several smaller primary schools in different parts of Espoo, therefore representing a diverse sample of Swedish-speaking adolescents from varied backgrounds and families. Both quantitative and qualitative data were collected from this sample through means of surveys and interviews.

3.5.1 Data collection

The surveys were sent to an authorised translator to be checked for spelling and grammar and the survey for the parents was translated from Swedish to Finnish because many students came from bilingual families and each family received the survey in both Swedish and Finnish. In September 2008 a pilot study was conducted in a comparable school with a sample of adolescents in the seventh grade, and their parents, to test the suitability and comprehensibility of the surveys. The pilot testing showed that the wording in a few of the questions in the

orientation to life questionnaire used in the survey was felt to be strange by some of the adolescents. However, as the orientation to life questionnaire has been validated and used extensively in research with adolescents it was decided that it would be used in this study with the original wording.

Information about the forthcoming study was disseminated at a parental meeting held in school in September 2008. Parents were informed that the duration of study was three years, participation was voluntary and participants could withdraw from the study at any time if the wished and all participants were to remain anonymous. Information was given that data was to be used in both a Master's thesis and Doctoral thesis. The school was assured they would be kept informed throughout the study. It was agreed that at the end of the study a copy of the doctoral thesis would be given to the school library. The mode of distribution of the surveys varied from year to year, as one of the conditions was that the study should cause no or little disruption to teaching. In October 2008 one hundred envelopes containing the research surveys were delivered to the school. The surveys were number coded so that groups of families could be identified. The class teachers were instructed to give a numbered envelope to the students randomly and write up the code number on a list next to the students' names. The teachers were also given a letter (Appendix 1) instructing them what to do with surveys returned to the school. The school nurse kept the lists of the students' names and codes so that if needed the students could be identified.

An introduction of the study purpose, as well as information concerning anonymity and the right to withdraw from the study was given to the students in each of the five classes before distributing the surveys together with a cover letter (Appendix 2). The cover letter explained the aim of the research, offering the respondents a possibility to contact the researcher in case they wanted more information concerning the research. Each family received an envelope with four copies of the surveys, one for the student (Appendix 3), two for the parents (Appendix 4) in Swedish and one in Finnish as many families were bilingual. Each envelope also contained a letter with instructions on how to fill in and return the surveys with a prepaid return envelope. In the same envelope was a bilingual letter of consent (Appendix 5) for the parents to return to the school if they gave consent for their child to participate in the research. In 2009 a letter (Appendix 6) was sent out asking for volunteers to take part in the qualitative interviews on the collective sense of coherence in families. Families were once more informed that the school would not have access to any of the research material, that the returned surveys would only be seen by the researcher and her supervisors and that the research results will be reported in such a manner that neither the individuals that answer nor their families could be recognized.

3.5.2 The sample

The initial research sample consisted of 99 adolescent students and their parents. Parental consent was a requirement for adolescent participation. Seventy consent forms were returned signed, of which 65 parents (66%) gave consent and five parents (5%) who did not give consent. Twenty-nine parents (29%) did not return the consent form, which resulted in an exclusion of some adolescents from the study despite them having returned their survey. Sixty-five adolescents participated at some point during the 3-year study (Table 3.3).

Table 3.3: Sample size waves I, II and III

WAVE	*N*	STUDENTS	GIRLS	BOYS	MOTHERS	FATHERS	FAMILY
I	*N*=99	60 (61%)	37 (62%)	23 (38%)	49 (55%)	40 (45%)	56 (57%)
II	*N*=65	60 (92%)	35 (58%)	25 (42%)	-	-	-
III	*N*=65	48 (74%)	30 (62.5%)	18 (37.5%)	20 (67%)	10 (33%)	21 (44%)

In *wave I* the adolescents were given the survey in envelopes to take home, fill in and return to their school or post to the researcher. The response rate in *wave I* for the adolescents was 61per cent (60; *n*=99) with a distribution of 62 per cent girls (37) and 38 per cent (23) boys. Fifty-six families (56; *n*=60) participated in *wave I* as a family resulting in a 93 per cent response rate, with a 59 per cent (33; *n*=56) response rate from both parents and a 41 per cent (23; *n*=56) response rate from a single parent in the family, with a distribution of 88 per cent (49) mothers and 71 per cent (40) fathers.

In *wave II*, when only adolescents participated, they were given surveys to fill out in school during class. Sixty adolescents who had been given parental consent returned their surveys resulting in a 92 per cent response rate for those who were participating in the study with a distribution of 58 per cent girls (35) and 42 per cent boys (25).

In *wave III* the surveys were delivered to the school and the adolescents were given envelopes in school. Four classes out of five filled in the survey in school. Adolescents were told to give their parents an envelope containing surveys. Parents were informed by e-mail that students would be given envelopes to take home. The response rate for the adolescents was 74 per cent (48; *n*=65) with a distribution of 62,5 per cent girls (30) and 37,5 per cent (18) boys. Twenty-one families (21; *n*=56) participated in *wave III* resulting in a 44 per cent family response rate, with a 33 per cent (7) response rate from both parents and a 67 per cent (14) response rate from a single parent in the family, with a distribution of 67 per cent (20) mothers and 33 per cent (10) fathers.

3.5.3 Data collection methods

One characteristic of mixed methods research is the large amount of data generated throughout the multiple stages of data collection. The data collection methods for the surveys from each wave will be described separately. The surveys contained both qualitative and quantitative questions. The *wave I* survey is explained in detail, however for *waves II and III* only the changes made to the original survey are presented. Subsequently the qualitative data collection methods consisting of a semi-structured interview in combination with genograms and eco-maps are described. Combining these three methods provides a mean of gaining deeper understanding of the Sense of Coherence in both adolescents and their families from multiple perspectives. One important factor influencing the choice of data collection methods was the ecological perspective that this study rested upon. Survey questions as well as the interviews aimed to take into consideration proximal processes, personal characteristics, multidimensional contexts and time (Bronfenbrenner, 1979).

The background questions in the *wave I* survey provided an understanding of the context for processes that are relevant in the development of Sense of Coherence. It was important to understand what and how personal characteristics, such as age and gender, influenced these processes (Antonovsky, 1979; 1987). Context is equally important in influencing processes and therefore the survey and interview questions were aimed at studying the influence of several contexts. In this study, the qualitative component was concerned with attitudes, opinions and experiences, whereas the quantitative component was directed towards measuring SOC and exploring counts of activity in order to create a complete understanding of both the static and dynamic aspects of Sense of Coherence.

3.5.3.1. Surveys

In *wave I* the survey consisted of 60 questions for the adolescents (Appendix 3) and 41 for the parents (Appendix 4). The survey consisted of both background questions as well as several questions pertaining to different aspects of health and family life. The survey in *wave I* consisted of predominantly quantitative questions, which were complemented with a few open-ended questions to gain an insight into individual experiences and understandings. The questions resulting in quantifiable data were posed as single queries, and multiple queries that were calculated and scored so that each question resulted in one answer that was converted to one variable. The answers to the open ended questions were transcribed and used as specific answers or grouped into themes.

Wave I: The adolescents' survey

Several questions (no. 6, 8-10, 12-14, 16, 26-33) in the adolescent survey (Appendix 3) were derived from the WHO cross-national survey, Health Behaviour in School-aged Children (HBSC). The HBSC-survey aims to gain insight into and increase understanding of young people's (age 11 to 15) health and health behaviour. The HBSC study encompasses the main belief of the WHO that health consists of physical, emotional and social wellbeing and that health should be viewed as a resource for everyday living and not just absence of disease. The HBSC survey was developed 1982 by an international research network and has been used up to date in 43 participating countries and regions (Currie *et al.,* 2004). Question no. 6 asked about self-perceived health, whereas question 7 asked about diagnosed illnesses. Several questions (no. 8-13) asked about body image, dieting and eating habits. Questions no.14 and 15 asked about feeling lonely and having friends. Question 16 asked how they experienced their home environment. Questions no.17 through to 20 gathered information on the adolescents' living arrangements as well as family structure. Question no. 22 was constructed to gain insight into health influencing factors that adolescents worry about. Question no. 23 asked if the student felt stressed and specifically what it is that stresses him/her and question no. 24 asked if the adolescent felt content with life at the moment.

The Orientation to Life questionnaire is also referred to as the Sense of Coherence scale. The original questionnaire (SOC-29) consists of 29 questions, with 10 items measuring manageability, 8 items meaningfulness and 11 items comprehensibility (Antonovsky, 1979; 1987). Because of the limited space that is generally available in quantitative research, Antonovsky developed a shorter form of the Sense of Coherence questionnaire, the SOC-13. In this study the SOC-13 scale was used and presented as question no. 25. In the SOC-13 scale four questions measure the manageability dimension, four items meaningfulness and five items comprehensibility. The scoring alternatives (1-7 points) give a possible range of 13 – 91 points (Antonovsky, 1987). The Sense of Coherence scale is proved to be psychometrically sound and the content of the items and the scoring alternatives (1-7 points) are similar in both versions of the SOC questionnaire (Eriksson 2007). The SOC scale has also been proved to be applicable to 12-year old children, according to research published after 2003 (Eriksson, 2007).

The adolescent's sense of school connectedness was measured using a modified scale (statements no. 21 A-C) derived from Resnick *et al.'s* (1997) six-item School Connectedness Scale. Measurement of school connectedness was conducted using a 4-item Likert scale. The three individual statements; I like my school, It is nice to be in school and I feel I belong in my school, had a scoring alternative of 1-4 points, giving a possible range of 3-12. The higher the score the more the adolescents were perceived as feeling connected to school.

A scale measuring the sense of family connectedness (questions no. 34-39) was created for this study by mirroring the original School Connectedness Scale (SCS) and adapting it to family conditions. Connectedness to family was measured by asking adolescents six questions; do they feel close to their parents, do they feel loved by their parents, do they feel cared for by their parents, do they have a good relationship with their parents, do they have fun with their parents and do they discuss issues with their parents. Measurement of connectedness was conducted using a 4-item Likert scale. The six individual questions had a scoring alternative of 1-4 points, giving a possible range of 6-24. The higher the score the more the adolescents were perceived as feeling connected to family. Connectedness in the family context means that the adolescent enjoys being with, feels close to and cared for by the family, whereas connectedness in the school context refers to students enjoying school, experiencing a sense of belonging and felt connected to it. Feeling connected to family and school have all shown to promote resilience, protect against risks and be beneficial to the adolescents' perceived state of health (McNeely *et al.,* 2002; Resnick *et al.,* 1993).

Rosenberg's Self-Esteem Scale (RSES) (Rosenberg, 1965) was represented as questions no. 26-33 measuring the adolescents' self-esteem. The scale is a ten-item Likert scale with answers on a four-point scale from 0-3, giving a possible range of 0-30. The higher the score the higher the self-esteem is perceived to be. Unfortunately in the process of compiling the survey, two of the questions were dropped and this mistake was overlooked when proofreading. Due to this error self-esteem was neither measured nor reported for the period of *wave I.*

Question no. 40 asked if the adolescent had pets, and if yes what kind. Question no. 41 was an open-ended question enquiring about what factors the adolescent consider are important for wellbeing. They were also asked if the factors they mentioned were part of their own life.

A scale measuring General Resistance Resources (GRRs) that the adolescents perceive they have at their disposal was created for this study. The aims of the GRR scale were to assess what resources adolescents perceived to be available in their immediate environment and to see if there were differences in perceived resources between adolescents with a strong SOC and a weak SOC. Antonovsky (1979; 1987) had conceptualized GRRs as factors explaining movement towards the health pole of the health continuum. Broadly the factors are biological, material and psychosocial factors and include physical factors, self-esteem, social support, money and cultural influences. GRRs mentioned by Antonovsky were converted into thirteen statements (no. 42-54), which were worded so that the adolescents could recognise the possible resources (GRRs) in the context of their everyday life. General Resistant Resources were measured using a 5-item Likert scale. The thirteen statements have a scoring alternative of 1-5

points, giving a possible range of 13-65. The higher the score the more resources adolescents were perceived as having.

Questions (no. 55-59) aimed to gain insight into the existence and possible nature of eating disorders in the individual or family, as well as the self-perceived risk of getting an eating disorder. Question 60 asked if the adolescent wanted the researcher to contact the school nurse (with the students identification number) if they felt that they needed help due to either an existing eating disorder or risk for developing an eating disorder.

Wave I: The parents' survey

The parents' survey (Appendix 4) was designed to mirror the adolescents' survey. This facilitated not only data analysis but also permitted for insight into possible intergenerational similarities that could warrant further investigation. The parents' survey consisted of 41 questions. The main differences from the adolescent survey were that in question no. 16 parents were asked both about things that they worry about personally, as well as what worries they have for their adolescent. Question no. 40 asked if parents believed there was a risk for their adolescent to develop an eating disorder and question no. 41 asked the parents to give a depiction of factors they believed would protect their adolescent from developing an eating disorder.

Wave II: The adolescents' survey

In *wave II* the survey (Appendix 7) was administrated only to the adolescents. The survey contained only quantitative questions and consisted of 17 questions. The survey from *wave I* was used a basis for the *wave II* survey. However, several questions were dropped, such as some background questions, and questions about body image issues, family mealtimes and health influencing factors that adolescents worry about. Preliminary results from the survey in *wave I* showed that body image and diet and weight issues were perceived as worrying, especially for girls. Therefore the SCOFF questionnaire (no. 14) was introduced in *wave II.* The SCOFF questionnaire, devised by Morgan *et al.* (1999) for non-professionals, is used to detect the possible presence of an eating disorder. Five yes/no questions were asked; each 'yes' answer gave one point, a 'no' answer gave zero points. A score of >2 points flagged up a risk of but not a diagnosis of anorexia nervosa or bulimia.

Wave III: The adolescents' survey

In *wave III* the survey (Appendix 8) contained both quantitative and qualitative questions and consisted of 30 questions. A decision was made to weight this survey qualitatively as the data generated from the family interviews could not be used due to ethical reasons (see chapter 4.3).

The Orientation to life questionnaire (Antonovsky, 1979; 1987) and several questions pertaining to School and Family connectedness (McNeely *et al.,* 2002; Resnick *et al.,* 1993) and The Rosenberg self-esteem scale (Rosenberg, 1965), were once again included as they were considered to be important in gaining an understanding of the development of SOC. The scale measuring GRRs was omitted in *wave III* as it was considered to be too limiting and instead several qualitative questions were employed in order to gain deeper understanding of the context in which the adolescents lived, which resources were believed to be available to them, as well as the processes that took place in the social relationships they had. Question no. 6 asked the adolescents what they thought constituted 'a good life/good quality of life', question no. 10 asked what they did to combat stress, question no. 14 asked what adolescents believed was important for teenagers' wellbeing. Question no. 13 asked if the adolescent had experienced bullying and how it had been addressed. Many questions asked about family life; question no. 24 asked about family traditions, question no. 25 asked what the family did together, question no. 26 about family rules, question no. 27 about any changes that had taken place in the family during the last 3 years, question no. 28 if the adolescent had a meaningful adult contact outside the family, question no. 29 asked about family mealtimes. The final question no. 30 asked if there were questions not asked about them or their lives that were important for their health and wellbeing that I should be aware of. The adolescents were asked to formulate a question/questions they felt were missing and provide an answer.

Wave III: The parents' survey

The parents' survey (Appendix 9) was, as in *wave I*, designed to mirror the adolescents' survey. However it was shorter, consisting of 24 questions, as questions concerning school, self-esteem, bullying and hobbies were not included in the parents' survey. A cover letter (Appendix 10) asking for more families to interview was sent out in 2010 to the parents with the surveys in *wave III*.

3.5.3.2 The family interview, genograms and eco-maps

Employing genograms and eco-maps in conjunction with the semi-structured family interview allowed for insight into detailed bi-directional processes and multi-level contexts when viewing the development of Sense of Coherence in an ecological framework. The composition of the semi-structured interview guide (Appendix 11) used in this study was devised after reviewing literature on Sense of Coherence, adolescent development, family resources and Bronfenbrenner's ecological model of human development (1995; 2005) and the Family Sense of Coherence Questionnaire (Antonovsky & Sourani, 1988).

Hanson's (2010) perception of Sense of Coherence as having both a time and space dimension influenced the choice of genograms and eco-maps as additional data collection methods. The space dimension with its abstract (philosophical and theoretical) and concrete (practical) levels of functioning facilitated gaining an understanding of the development of Sense of Coherence by asking about emotions, thoughts and actions that take place in the family. The time dimension was investigated by asking about past, present and future events in the family that had influenced, were influencing or may influence meaningfulness, comprehensibility and manageability in the family.

At the outset of the study all the families participating in the study were sent a letter asking if they would like to participate in a family interview. Twelve families volunteered to participate and a decision was made to include all of them. The families were given the choice of deciding where and when the interviews were to take place. All families chose to be interviewed in their own homes, during the week and in the late afternoon or early evening. The semi-structured family interviews lasted approximately two hours from start to finish. The interviews were taped using an Olympus DS-30 digital voice recorder that was placed in the centre of the table, which resulted in a high quality playback sound that allowed for identification of each family member's voice. Additional information was gathered and documented during the family interview, drawing individual and a collective (family) eco-map and compiling a genogram.

Eco-maps are graphical representations depicting networks in an individual's or family's life. They provide an understanding of how the individual/family understands their environment, in a certain time and place (Hartman, 1995). Genograms are intergenerational maps of three or more generations. They are assessment tools that focus on identifying and illustrating family data, family history, family events, significant family experiences, family systems and patterns as well as intergenerational emotional relationships found within the family (Hartman & Laird, 1983; Hartman, 1995; Hardy & Laszloffy, 1995; McGoldrick *et al.,*

1999; Goldenberg & Goldenberg, 2004; Kilpatrick & Holland, 2003). Genograms have been used in several disciplines, within a variety of cultural groups and across the lifespan, for assessing families in clinical settings such as social work and health care as well as in family, couples and marriage therapy (McGoldrick & Gerson, 1985; Estrada & Haney, 1998; Nelson-Anderson & Waters, 1998; Bean *et al.,* 2002; McGoldrick *et al.,* 2008). The main differences between data collected through eco-maps and genograms are that eco-maps are flexible and broader in scope, and inclusive of non-relatives, friends, co-workers etc. Eco-maps capture the networks that the families move around in. As this study employed a health-promoting framework the family members were encouraged to be active participators by being asked to draw their own eco-maps during the course of the interview, as the researcher thought that this could, together with the interview, be an empowering exercise that might lead to recognition of previously unidentified health promoting resources.

3.6 Data analysis

There are several approaches to mixed method data analysis involving connecting, combining, contrasting or integrating different qualitative and quantitative analytical strategies (Teddlie & Tashakkori, 2009). Data analysis was performed using both qualitative and quantitative methods, individually and mixed. Green (2007) has defined four phases of analysis in mixed methods consisting of 1) data transformation, 2) data correlation and comparison, 3) analysis for inquiry conclusions and inferences and 4) the use of characteristics of the analytical framework of one methodological tradition within the analysis of data from another tradition. Teddlie & Tashakkori's (2009) have identified several mixed method data analysis techniques such as 1) parallel mixed data analysis, 2) conversion mixed data analysis, 3) sequential mixed data analysis, 4) multilevel mixed data analysis, 5) fully integrated mixed data analysis and 6) the application of analytic frameworks of one data tradition to the data analysis within another tradition.

This study employed several different analysis strategies. The analysis of data in *wave I* influenced the survey questions in *wave II* and the semi-structured interview guide. Analysis of data from *waves I* and *II* as well as data from the interviews influenced the construction of the survey in *wave III*. Survey data was analysed using descriptive statistics and content analysis (Krippendorff, 2004; Elo & Kyngäs, 2008). Interviews were analysed using thematic analysis (Braun & Clarke 2006). Triangulation of quantitative and qualitative data (Bryman, 2008), as well as conversion mixed data analysis used to quantify narrative data (Teddlie & Tashakkori, 2009) was used when building family profiles. Greene's (2007) idea of using aspects of the analytical framework of one methodological tradition within the analysis of data from another

tradition was used by displaying qualitative data through matrices and graphs usually used in the quantitative tradition.

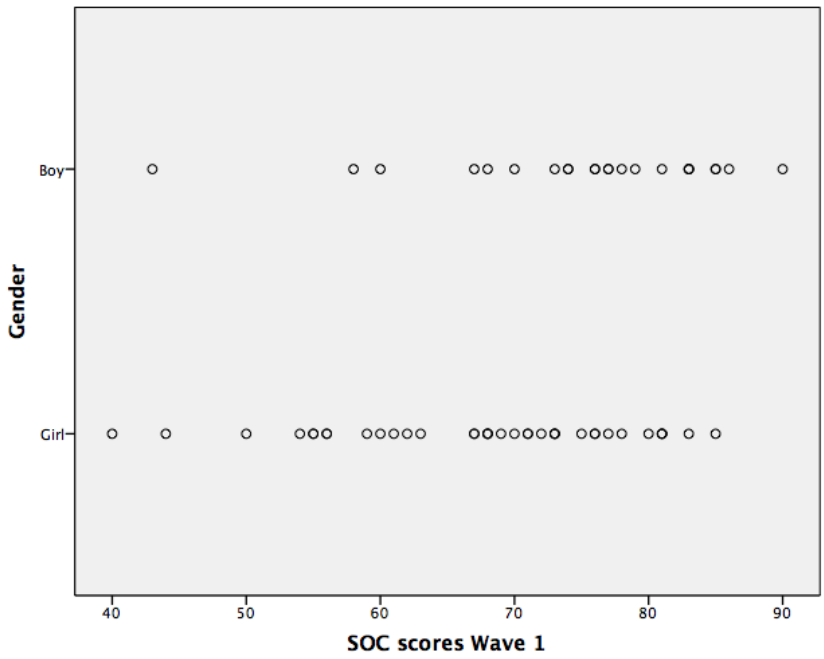
3.6.1 Quantitative data analysis

Statistical analysis of the data was performed employing the program SPSS, *Statistical programme for Social Sciences* (Hosker, 2008), versions 16 (*wave I*), 18 (*wave II*) and 20 & 21 (*wave III*). Before entering all data into the programme all answer alternatives of every variable were number coded. Items that were worded in a certain way to avoid response bias were reversely coded where applicable. Scales were computed where appropriate, and total scores of scales were calculated as new variables. Data cleaning was carried out to detect and remove any inconsistencies in the data set. This involved removing typographical errors, checking for incomplete, improperly formatted or duplicated data as well as spot-checking data in SPSS against the original data in the surveys. Thorough data cleaning is imperative in all studies to avoid misleading research findings (Hosker, 2008). The data file was split into groups, depending on needs for analysis with the groups based on gender, strength of SOC and division of strong-weak adolescents in strong-weak families. Statistical procedures were performed for all variables, such as frequency distributions and descriptive statistics. The Sense of Coherence was calculated separately for each group. Independent sample t-tests were performed to check for differences between genders. Paired samples t-tests were used to compare group SOC means between waves. One-way ANOVA analysis was conducted to check for statistically significant differences between the following groups: girls with strong SOC, girls with weak SOC scores, boys with strong SOC scores and boys with weak SOC scores. Pearson's product moment correlation coefficient was computed to assess the relationship between SOC and variables that were considered to possibly have an influence on the development of SOC.

Sense of Coherence is reported as the sum of the answered questions. It was decided that if there were unanswered questions the number four would be used to replace a missing score. If more than 4 questions were unanswered the response was omitted from the study. One mother had only filled in the second page of the SOC questionnaire, missing 6 questions and her SOC was therefore not calculated. All other participants had answered all questions. The Sense of Coherence has been reported both as a number in a continuum and dichotomised into strong or weak Sense of Coherence. Eriksson's (2007) synthesis on salutogenic research shows that a strong SOC has a health protecting factor but that there is no specific cut off point to where it loses its protective power. Antonovsky (1987) advocated that the concept SOC should not be examined as strong or weak. However, research shows that several different ways of division

have been used when studying SOC: using the median as the cut off point, expressing scores higher than the mean SOC score as high SOC, dividing scores into tertiles representing strong, medium and weak scores, or quartiles where the lowest quartile is assigned low SOC and the highest strong SOC and the rest is moderate SOC (Eriksson, 2007). For the sake of creating groups and analysing data within these groups the Sense of Coherence was divided into quartiles in this study. Those adolescents in the top three quartiles were considered to be in possession of a strong SOC score and those in the lowest quartile to be in possession of a weak SOC score. Two separate issues influenced the reasoning behind this specific division; firstly during adolescence it is not uncommon to have days of uncertainty, and during these days adolescents may perceive themselves as somewhat 'less' than their peers (Rew, 2005). This may be reflected in how they answer the questions of the orientation to life questionnaire, and therefore may result in a temporary lower than average score. Secondly, with this specific division there seemed to be a natural grouping of strong-weak scores (Figure 3.2).

Figure 3.2: Scatterplot showing distribution of SOC scores



Sense of Family Coherence (SOFC) was measured using the aggregation model (Sagy & Antonovsky, 1992). This means that SOFC is reported as the mean of the total sum of the family members' individual Sense of Coherence. The SOFC was divided into quartiles just as the SOC for the adolescents, which meant that families in the lowest quartile were considered to be in possession of weak SOFC scores.

3.6.2 Qualitative data analysis

In this study qualitative data were derived from open-ended questions in the *waves I* and *III* surveys, as well as from the semi-structured family interviews. This study employed both an inductive manifest approach and inductive latent approach (Elo & Kyngäs, 2008) in the analysis, as this provided a rich and in-depth description of the entire data set, which facilitated the exploration of differences between being in possession of strong or weak SOC scores. The inductive manifest approach, used when analysing open-ended questions, identified explicit meanings while the latent deductive approach identified underlying assumptions and concepts that were believed to influence the manifest content of data. The open-ended survey questions in *waves I* and *III* were analysed by inductive content analysis. The semi-structured family interviews were analysed with thematic analysis allowing for both expected and emergent themes and ideas to be incorporated and explored in subsequent surveys. An inductive approach was chosen to analyse data because previous knowledge about contemporary context and processes influencing the development of SOC in adolescents is scarce. According to Vaismoradi *et al*. (2013) content analysis and thematic analysis are frequently used interchangeably as they are both qualitative descriptive approaches of analysing data with several similarities in both aims and process. The biggest difference between them is the opportunity for quantification of data in content analysis.

3.6.2.1 Content analysis

As this was a mixed method study content analysis was found to be a highly useful approach to classify, summarize, quantify and tabulate qualitative data. This study used conventional qualitative content analysis (Hsieh & Shannon, 2005) to analyse the data. Content analysis is a method used to analyse either qualitative or quantitative data and may be used in an inductive or deductive way depending on the purpose of the study. It is a systematic and objective research method used to describe and quantify facts and experiences (Downe-Wamboldt, 1992; Krippendorff, 2004; Bryman, 2008). Content analysis has earlier been criticised as not being sufficiently qualitative in nature (Morgan, 1993), however lately it has been commonly used in qualitative research, specifically within nursing research (Graneheim & Lundman, 2004; Elo & Kyngäs, 2008). According to Krippendorf (2004) content analysis is context sensitive as a research method. Therefore it was deemed suitable as an analysis method, as Bronfenbrenner (1999) stated that no processes occur outside of context. Context is imperative to every content analysis study as it provides a lens through which the existing text makes sense. The importance of context becomes evident, as the aim of qualitative content analysis is to identify core consistencies, meanings and patterns and to provide knowledge and understanding of the phenomenon that is under study. Context

allows the researcher to process texts that are significant, meaningful and informative to the informants, and thereby facilitates in making sense of specific data that can answer research questions (Krippendorff, 2004).

Content analysis is flexible as a research method with no fixed guidelines for data analysis. The inductive content analysis process has three phases (Elo & Kyngäs, 2008). The first is '*preparation'* that starts with selection of units of analysis, becoming completely familiar with the data and choosing to use an inductive or deductive approach. The second is '*organisation'* that starts with open coding of the data, generating categories and grouping these under higher order categories before initiating the abstraction process of generating a general description of categories and sub-categories. The final phase is '*reporting'* of the process and results using models, conceptual systems or maps, categories, and/or a story line. The process of analysing the open-ended questions with content analysis in *waves I* and *III* can be seen in Table 3.4.

Table 3.4: The process of analysing open-ended questions in this study

Phases of analysis	Process of analysis
1. Reading through all responses	Read through all responses to gain a sense of emerging categories and themes.
2. Generating initial categories	Develop categories that include the themes that emerged in the initial review of the responses.
3. Assigning responses to categories and re-checking categories	Assign each comment to an established category. Check if categories are appropriate or can they be broken down and re-grouped into subcategories
4. Reviewing for major categories	Review categories for content and present major categories
5. Identifying patterns and trends	Review categories to see which are related and where patterns and trends can be identified.
6. Writing up the analysis	Summarize in descriptive text, incorporate some comments as examples for major categories.

In this study the open ended questions aimed at identifying and obtaining information that was highly personal, disclosing subjective information about issues important to understanding the factors, processes and context that were significant in the development of SOC. Table 3.5 visualizes the building of categories through inductive content analysis using the question 'What do you consider important for wellbeing?' as an example. Longer meanings of obtained text were condensed into units of analysis consisting of shorter text segments or words.

Duplicate units of analysis existed but are presented only once in the tables due to limitation of space. Sub-categories that were similar in nature were through an abstraction process transformed into categories.

Table 3.5: An example of how inductive content analysis was preformed

Wave I: Question 41. What do you consider important for wellbeing?				
Units of analysis	Friends, Family, Boy-/Girlfriend, People that care, Kind parents, Good family, Having someone to talk to, Support from family and friends, Surrounded by people who love you, Reliable friends, I can talk to my parents, Good family and relatives, Others that care for you, Having someone care about you, That the family feels good together, Good health, Being healthy, That the family's health is good, Not mentally ill, Feeling well mentally, No serious illness, Don't drink or smoke, Being in good shape, Feel successful, Being happy, Feel safe, Feel loved, Content with my life, Being content with your own life is the most important thing, Everything is good, Comfortable with myself, Good childhood, No stress, Stress free life, More positive than negative experiences, Not afraid of the future, Feeling that life is somewhat as you want it to be, You can do what you want within reason, Trust yourself, A good life, Enjoy life, Life is good, Nice school, Like being at school, Nice house, Living in a nice place where you have friends and things to do, Food and drink, Clothes, Money, Financially OK, Not being poor, No economical problems, You have everything you need, Hobbies, A job, Do well at school, Security, No one abuses you, You are treated well, No big fights so that someone will hit you			
Sub-categories	Having friends (*n*=28) Close to family (*n*=20) Supportive and caring relationships (*n*=9)	Being healthy incl. good physical health (*n*=15) Healthy lifestyle (*n*=4) Good mental health (*n*=2) Absence of disease (*n*=2) Family health (*n*=2)	External resources Shelter, food and clothes (*n*=9) Hobbies (*n*=6) Security (*n*=6) Money (*n*=4) School (*n*=2)	Internal resources Content (*n*=18) Happiness (*n*=11) Belief in self (*n*=6) Feel loved (*n*=3) Sense of trust (*n*=3) Positive outlook on life (*n*=2)
Categories	Connectedness	Health	External and internal resources	
Latent findings	Experiencing a feeling of connectedness and caretaking from the immediate environment.	Being in possession of good health.	Having access to resources such as social and material resources provided by parents. Being in possession of personal characteristics that can be utilized as resources.	

3.6.2.2 Thematic analysis

In this study inductive thematic analysis was used to analyse the semi-structured family interviews. Inductive thematic analysis is useful when little is known about the phenomena under study (Braun & Clarke, 2006). In this case the family processes and the context in which they take place influencing the development of SOC (Eriksson & Lindström, 2005; 2010; Eriksson, 2007; Billings & Hashem, 2010; Mittlemark & Bull, 2012). The reason for employing thematic analysis with the family interviews was that it complemented the data derived from content analysis of the open-ended survey questions, thereby giving a greater in-depth understanding of the findings. Thematic analysis with its emphasis on meaning was considered to promote a more discursive understanding of the data. In thematic analysis

cross-referencing may occur between themes, while in content analysis the aim is often to create mutually exclusive categories enabling frequency counting of themes (Bryman, 2008). Boyatzis (1998) describes thematic analysis as having three phases of inquiry: recognition of an important moment (seeing), encoding of the moment (seeing it as something meaningful) and interpretation of the moment. Although the data generated through thematic analysis is not presented in this thesis (see chapter 4.3) the process used in analysing the semi-structured family interviews is described in Table 3.6 as the themes generated from the analysis process influenced the choice of the open-ended questions in *wave III*.

Table 3.6: The process of analysing family interviews in this study

Phases of analysis	Process of analysis
1. Getting familiar with the data	The data were transcribed into text that was read and re-read severa times allowing for profound familiarisation of the data and an activ searching for meanings and patterns
2. Generating initial codes	Simple codes were extracted from the data, first inductively then deductively in relation to the research questions. The codes were organized into groups of data to allow for further analysis
3. Searching for themes	The codes and grouped data were sorted into potential themes. Unclear data was identified and flagged. Data were sorted relevant to emerging themes.
4. Reviewing themes	The potential themes were checked against the data set and the research questions to determine their validity. Unclear data were reviewed. The themes were refined.
5. Defining and naming themes	Each theme was reviewed against the data sets, the research questions and the theoretical background for focus and depth. Themes were given informative names.
6. Producing the report	At this stage the themes were woven together with data extracts anc the analysis was contextualized in relation to the findings from the quantitative data analysis as well as to the existing literature.

According to Braun & Clarke (2006) the main purpose of thematic analysis is to provide answers to research questions by identifying patterns of meaning found in datasets. This is done by following a rigorous process of data familiarisation, coding, identifying and developing and revising themes. Advantages of thematic analysis are flexibility and that it is not tied to any particular discipline (Vaismoradi *et al.,* 2013). How the themes are used differs based on the intentions of the research and the process of analysis. Thematic analysis has been described as a method, which focuses on identifying and describing both semantic and latent ideas within the data as themes. The codes that are developed to represent the themes can be used in several ways such as identifying and comparing code incidences and their co-occurrence and graphically displaying relationships between codes found within the data (Guest *et al*., 2012; Vaismoradi *et al.,* 2013).

3.7 Integration of data into family profiles

The integration of data into family profiles provides a way of understanding the phenomenon of the collective Sense of Coherence in the family. The integration of data pulls together each individual's 'threads of a story' and provides deeper understanding of factors that could be attributed to differences in strength of Sense of Coherence, especially factors relevant to the development of a strong Sense of Coherence.

The family profiles are comprised of data generated from the eighteen families that participated in all three waves of the study. Each profile shows demographic data, changes in individual SOC and SOFC scores, and provides insight into individual and contextual factors found in the family that the family believes to be associated with and important for health and wellbeing. In addition to the detailed specific family data each profile gives insight into the subjectivity of family life, presenting interrelated complexities that exist in family relationships and processes that may have an impact on the development of SOC (e.g. emotional ties, life satisfaction, stress). The profiles were created by mapping cross sectional and longitudinal data, individual and family data, into a mixed method matrix with families as cases (rows) and the data extracted from the surveys displayed in columns. The profiles contain narrative data from the content analysis of open-ended questions and statistics derived from quantitative data. The results from the quantitative data aimed to provide an account of structure of the collective Sense of Coherence in family life while the findings generated from qualitative data aimed to provide a sense of process. Several of the survey questions gave insight into family life and processes. However, the aim of the integration of data into family profiles was to produce higher-level conclusions described in more abstract terms brought together by responses from numerous questions. Summary data of the profiles were compared in order to identify similar and different features and components leading to an interpretation of the findings. The analytical process was challenging due to the lack of uniformity of family member participation. This is further discussed in chapter 3.10.

3.8 Evaluation of data quality in mixed methods research

Mixed methods researchers face the challenge of having different sets of criteria for assessing quality within the positivist and constructivist paradigms. *Validity* (internal and external), *reliability*, *replicability*, *generalizability*, *objectivity*, *credibility*, *transferability*, *dependability*, and *confirmability* are acknowledged data quality evaluation standards. If data from both paradigms are valid and credible than the mixed methods study will meet the standards for high overall data quality (Teddlie & Tashakkori, 2009).

Traditionally, validity, reliability, replicability and generalizability were acknowledged as data quality evaluation standards that are related to quantitative research methods (Bryson, 2008). Validity has two meanings in research, validity of the study or research design (internal and external) and validity of a measure (measurement validity). Validity refers to whether the data and methods are 'correct' and whether or not the data reflect reality and include the central topics of the research area. In terms of the method it refers to whether a measure of a concept really measures that concept, thus obtaining the correct results.

According to Thorndike (1997) the internal validity of a study is the extent to which we are able to derive clear, causal conclusions from our study. The external validity of a study or research design refers to the extent of which the results of an investigation can be generalized to other samples, situations or populations. Reliability is essentially concerned with the question of whether the results of a study are repeatable, and with issues of consistency of measures. Reliability is the extent to which a test or procedure produces similar results under constant conditions on all occasions. Reliability aims to minimize errors and biases in a study. Reliability is shown by trying to estimate the amount of random error in a particular measure in order to determine if the results will show consistency, stability and dependability. A questionnaire can be reliable without being valid, but it cannot be valid if it is not reliable.

Replicability proposes that if the study is repeated, following the same methods but with different researchers and a different sample it would yield the same interpretation of results. Generalisability proposes that the findings from the research sample can be transferred to populations or situations other than the original research sample and objectivity refers to the absence of bias in research (Bryman, 2008; Denscombe, 2010). Qualitative researchers initially followed quantitative data quality evaluation standards but eventually developed their own alternative quality criteria to follow. Lincoln & Guba (1985) introduced trustworthiness as an alternative concept for several quality issues in qualitative research and proposed that qualitative researchers use the vocabulary of credibility (as an alternative to internal validity) meaning that there is confidence that the findings are true; transferability (as an alternative to external validity or generalisibility) meaning the findings have applicability in other contexts; dependability (as an alternative to reliability) meaning the findings are consistent and could be repeated; and confirmability (as an alternative to objectivity) referring to the degree of which the results can be confirmed by others.

According to Teddlie & Tashakkori (2009) the two basic issues to be addressed concerning data quality are the same in all studies. The first is the issue concerning the measurement

validity/credibility (am I really measuring or capturing the phenomena that I had intended to) and second, assuming that I am measuring/capturing the intended phenomena, are my measurements/recordings consistent and accurate (data reliability /data dependability). Testing a survey for reliability and validity is both time-consuming and expensive. It usually involves large-scale piloting and comparisons with other questionnaires known to be reliable and valid (Hosker, 2008). In this study the validity and reliability of the survey were shown through the determination of face validity of the questionnaire. This was established by constructing the questionnaires together with experts within salutogenic research, and by conducting a pilot study to ensure that the main measuring instruments in the initial survey were appropriate for the planned study sample. Pilot testing allows researchers to ensure that the measuring instrument is appropriate for the planned study sample and to determine the reliability of the instrument (Bryman, 2008). It may also generate other useful information such as the presence of confusing information (Talbot, 1995) and the comprehensibility of instructions (Parahoo, 1997). The impact that the use of blended questionnaires may have had on the validity of the study findings is discussed in the limitations chapter 6.4.

Several, however not all, of the scales used in the questionnaire have been previously used in research on adolescents and have shown to have high internal consistency and validity. Internal consistency reliability of the scales used in this study was obtained through the calculation of Cronbach's alpha reliability coefficient of the summated scales. When analysing the data the summated scales were used and not single items from the scale, as Cronbach's alpha does not provide reliability estimates for single items (Gliem & Gliem, 2003). According to George & Mallery (2003) reliability coefficients > 0.9 reflect excellent internal consistency, coefficients > 0.8 and < 0.9 reflect good internal consistency, coefficients > 0.7 and < 0.8 reflect acceptable internal consistency, coefficients < 0.6 and < 0.7 reflect questionable internal consistency, coefficients > 0.5 and < 0.6 reflect poor internal reliability and coefficients <0.5 are considered unacceptable. Test-retest reliability of the scales was measured and reported as Pearson's correlation coefficient. The shorter the time-gap between measurements, the higher correlation, the longer the time gap the lower the correlation. The Sense of Coherence scale has in previous research shown high internal consistency (Eriksson, 2007). The internal consistency reliability of the SOC-13 scale was found to be good (13 items; $\alpha = .86$). There are very few longitudinal studies reporting test-retest reliability of SOC-13. Test-retest reliability coefficient for SOC-13 has been reported to range from 0.96 to 0.72. One study among Swiss adolescents (aged 16-20) reported that the correlation was 0.77 after 18 months (Eriksson & Lindström, 2005). Test-retest reliability for SOC-13 in this sample was 0.55 (Pearson's $r = 0.55$, n = *43)* after 24 months, between *waves I* and *III.*

In previous research psychometric tests have supported the underlying structure of the Rosenberg self-esteem scale, (RSES) showing high internal consistency and high congruent validity (Frank, et al., 2008; Sinclair, *et al.,* 2010). In this study the internal consistency reliability of the Rosenberg self-esteem scale was found to be questionable (10 items; α = .59). Test-retest reliability for RSES in this sample was 0.60 (Pearson's r = 0.60, n = 43) after 12 months, between *waves II* and *III.* The SCOFF questionnaire has in previous research shown to have a high rate of test sensitivity (Morgan *et al.,* 1999; Hautala *et al.,* 2009; Lähteenmäki *et al.,* 2009; Pannocchia *et al.,* 2011). In this study the internal consistency reliability of the SCOFF questionnaire was found to be poor (5 items; α = .55). As the use of the GRR scale, the modified school connectedness scale and ad hoc family connectedness scales were exclusive to this study there are no previous psychometric data. In this study the internal consistency reliability of the General Resistance Resources (GRR) scale was found to be highly reliable (13 items; α = .84). Test-retest reliability for the GRR scale in this sample was 0.54 (Pearson's r = 0.54, n = 53) after 12 months, between *waves I* and *II.* The internal consistency reliability of the school connectedness scale was found to be reliable (3 items; α = .75). Test-retest reliability for school connectedness in this sample was 0.60 (Pearson's r = 0.20, n = 44) after 24 months, between *waves I* and *III.* The internal consistency reliability of the family connectedness scale was found to be highly reliable (6 items; α = .91). Test-retest reliability for family connectedness was in this sample 0.60 (Pearson's r = 0.16, n = 43) after 24 months, between *waves I* and *III.*

In this study's qualitative strand the following strategies were employed to meet the criteria of trustworthiness. Credibility was achieved through prolonged engagement of site, peer briefing, bracketing, and member checks ensuring that the results from the study are credible from the perspective of the informants. Transferability was achieved through thick description of the central assumptions of the study, the research process and data sets. This enables the reader to decide if the results may be transferable to another context. Dependability was achieved by employing multiple data collection methods, by providing a coherent detailed documentation of the methods used and by checking the consistency of the study process. Confirmability was achieved through checking the internal coherence of the study, in this case by keeping an audit trail in form of a reflexive journal consisting of all raw data, notes, and information about methodological decisions, and steps of data collection, reduction and analysis procedures as well as reflections on eventual bias that could influence neutrality.

3.9 Ethical considerations

A request for ethical permission to conduct this study was submitted to ETENE (The National Advisory Board on Social Welfare and Health Care Ethics), the Helsinki university hospitals research committee of coordinated research and the City of Espoo's department of education. Ethical approval was ultimately granted from the department of education in the City of Espoo. A more detailed explanation of the ethical permission process is given in chapter 3.9. explaining challenges of the research process.

The Declaration of Helsinki (1964) includes an examination of the issue of children as research subjects in relation to informed consent. The principles for conducting research contained in the Declaration of Helsinki (1964) apply to all human subjects, adults and children. For example, adequate information must be provided to the research participants, participation in the research must be freely volunteered, with the understanding that the participant can withdraw at any time, and in addition, informed consent should be obtained, preferably in writing. The guidelines are clear that the consent of the child should be sought in addition to that of the responsible adult (WMA, 1964). Research involving children and young people should optimally only be conducted when the research question posed is important to the health and wellbeing of children. However, research not intended directly to benefit the child subject is not necessarily either unethical or illegal. Such research includes observing and measuring normal development and the use of 'healthy volunteers' in controlled experiments as well as in cases when the participation of children is indispensable because information available from research on other individuals cannot answer the question posed in relation to children, or when the study method is appropriate for children and the circumstances in which the research is conducted provide for the physical, emotional and psychological safety of the child (Tinson, 2009).

Written consent was requested from and granted by the city of Espoo's Department of Education, as well as obtained from the headmasters in the schools where the pilot study and the factual study took place. Adolescents wishing to participate signed a consent form that also required their parents' signature. Parents were informed about the study before consenting to their own and their child's participation in the study. All participants were informed that they were allowed at any time to withdraw from the study. Due to the longitudinal study design, returning the questionnaires was considered as on-going consent. However, during the interviews consent was asked from all participating family members and recorded on tape. All consent forms have been documented and saved according to correct ethical procedures.

Ethical arguments can be seen throughout the entire research process. In this study the ethical principles of respect for persons, beneficence, justice, privacy and confidentiality and fidelity (Crosby *et al.,* 2006) have been followed as described in table 3.7.

Table 3.7: How core ethical principles were shown in the study

Ethical principles	**How they are shown in this study**
Respect for persons: The principle of respect for persons means that research participation must be voluntary and participants must be informed of the fundamental goals and aspects of the research.	All participants were given the choice to not return the survey if they did not want to participate. Information concerning the study was given to parents and teachers at a parental meeting organised in school. Parents of the adolescents were asked for written consent. Adolescents were informed about the goals of the study and informed that considerations of privacy and confidentiality would be upheld. Adolescents were informed that participation in the study is voluntary and were given the option to not return the survey, or quit at any time
Beneficence: Beneficence provides the ethical basis for conducting research that seeks to improve the health and wellbeing of participants.	Beneficence was demonstrated by asking participants if they want me or the school nurse to contact them if they feel they need to talk about an existing eating disorder or if they feel they are at risk of developing an eating disorder.
Justice: The principle of justice demands a fair sharing of both risks and benefits and is important in the selection of research participants.	Justice was shown through the choice of a school with a wide uptake of adolescents from varied living areas, coming from varied socio-economical backgrounds.
Privacy and confidentiality: Keeping participants anonymous ensures privacy. According to the rule of confidentiality it shall be guaranteed that no information concerning the survey or the participants shall be divulged to a third party without the permission of the participant.	Adolescents were given identification numbers so that when findings are reported it will be impossible to recognise individual adolescents or families. The only other person with knowledge of the participant's identity was the student nurse, so that principle of beneficence could be upheld.
Fidelity: Fidelity implies that steps of the research design were followed correctly, all data collected were reported anonymously and that the surveys were collected, checked and stored in the proper manor	The research design was followed and data were reported anonymously. The surveys were collected and checked in the proper manor. All data were stored in a locked cupboard, in a locked room to ensure that I was the only person with access to the data.

Source: Crosby *et al.* 2006

Striving to present the correct viewpoints of the participants, to uphold confidentiality and to be trustworthy are all attempts at being ethical. The schools where the pilot study and research took place have not been named as there are only a few Swedish schools in the city of Espoo and there may therefore be a risk of identification of adolescents or their families, however unintentional and despite all measures of precaution taken.

3.10 Challenges of the research process

Prior to starting the study, while I was thinking about the research aims and questions, I recognised my bias of having previous knowledge concerning salutogenesis and the Sense of Coherence. This bias was addressed by acknowledging how the knowledge would affect the study and by making sure that the data collection methods were designed to be value free and not lead the participant to answer what I believed they should. The first challenge was designing a study that would allow me to meet the call that had been made for *'additional complementary research needed to further the comprehension of how life experiences, as well as of how social, cultural and historic contexts shape GRRs, strengthen SOC and promote health'* with the resources that were available to me as an independent researcher in a small research team. Selecting a longitudinal, fully integrated, mixed methods study design and choosing a sample that would yield diverse yet manageable data met this challenge. The chosen study design allowed for gathering data providing both subjective and objective insights into the SOC of the individual, the family, the context and the processes that shape SOC. The purposive selection of the school where the study took place meant that the data gathered would be diverse as the uptake area of students is large with both affluent and less affluent areas of the city represented. Another factor affecting the choice of the selected school was that the staff working therein had a reputation for being willing to participate in research projects. This facilitated the approach to the school with the research idea and gaining permission to conduct the study with the students. However, the one drawback from being a school that actively participates in research was that some of the parents declined to participate in the study as they felt there were too many projects going on in school and they felt they did not have the energy to participate in them all.

What I did not anticipate were the methodological and analytical uncertainties that arose during the study. The uncertainty was not due to a lack in methodological or analytical knowledge; it was a reflection of my philosophical assumptions guiding the study. Clinical nursing is closely related to the medical tradition with its roots in the positivist paradigm while narrative family psychotherapy is rooted in the constructivist paradigm, with its belief that reality is constructed by interaction between individuals and therefore depends greatly on context. As explained in chapter 2, Antonovsky (1979; 1987) claimed that SOC is a construct that can be applied to a collective as well as to an individual. The collective Sense of Coherence may be seen as having a collective perception or 'worldview' of ideas and beliefs through which an individual interprets the world and interacts within it. Each person's 'worldview' is shaped reciprocally through thoughts, behaviour and interaction with others influenced by culture, beliefs, education, family, and experiences. Sagy & Antonovsky (1992) claimed that a family's SOC is not identical to the SOC of its family

members and cannot therefore be observed as clearly as the individual SOC. In this study, the individual as a unit of analysis was relatively easy to follow over time, the family as a unit of analysis however was more challenging. The families that participated in the study chose which family members, other than the adolescent, would participate. The covering letter introducing the study and inviting the families of the adolescents to participate never advised who should answer, in other words never defined the family unit. This resulted in family units consisting of one adolescent plus one or two parents.

For this study the aggregation model (Sagy & Antonovsky, 1992) was chosen to calculate the collective SOC in the family. It is possible that the aggregation model of calculating Sense of Coherence in a family could result in a bias against families with a single parent. In order to assess this, the collective SOC scores were also calculated using a single parent score contribution for all families. In family units with two parents the individual parental SOC scores were aggregated into a single parent score. When using a single parent contribution instead of the aggregation model it was found that 12 families, of the 56 families that participated in the study, had an increase averaging 1.8 points in their SOFC scores, 15 families had a decrease averaging 2.3 points in scores, while the scores of 27 families remained the same. When all SOFC scores were recalculated and further divided into quartiles the cut-off point remained the same as in the original calculations, with scores between 42-66 assigned as weak and scores between 67-85 assigned as strong. The 'single parent contribution' method of calculating the SOFC resulted in 2 families (3.6% of all families), moving from the formerly assigned strong group to the weak group. 'Family 70' had a 1 point change in score and 'family 96' had a 4 point change. Family 70 only participated in *wave I*, whilst family 96 participated in all waves of the study. In family 96 both parents had strong SOC scores in *waves I* and *III*. The adolescent in family 96 had a very weak SOC score throughout all waves, which had an effect on the SOFC when calculated using a single parent contribution.

As the differences between the results calculated with a single parent contribution and the results calculated with the aggregation model were found to be small it was decided that Sagy & Antonovsky's (1992) aggregation model was deemed a suitable calculation method, as it is a validated method of measuring the collective SOC in the family. Families are not static and neither is the individual or collective SOC, as family dynamics may change over time. The phrase 'Sense of Family Coherence' (SOFC) was therefore chosen to be used in this study as it implies that those family members, who answered the survey, experience (sense) their family coherence in a certain way as opposed to the phrase 'Family Sense of Coherence' (FSOC) which implies that the family has a 'fixed' collective SOC.

Another challenge related to SOC was that for the analysis of data it was necessary to create a division of SOC into strong and weak categories and this required defining a cut off point for strong SOC. I wrestled with the question of how to determine when a SOC level is considered strong or when it is considered weak. I discussed this with several colleagues and even personally contacted Professor Shifra Sagy. The advice I was given varied; some advised using different methods of division, others advised against a division at all. Several methods of division were tested before a final choice was made. The method and reasoning behind the division is explained in detail in chapter 3, sub-section 3.6.1. However, as one can move between groups of strong and weak SOC with just one point difference it would seem that Antonovsky (1987) was right in not expressing a cut-off point between strong and weak SOC. The subsequent challenge was in designing the strands of research in order to meet standards for a mixed methods study of high overall data quality. This challenge was met through acquisition of knowledge pertaining to data quality standards for both quantitative and qualitative research methods and thereafter ensuring that all measures used and procedures undertaken were in accordance with and fully met the standards required for the chosen method. Chapter 3, sub-section 3.8, provides a transparent depiction of how these standards were met.

Another challenge in this study had to do with obtaining ethical permission for the study. When I started my Master's thesis at Laurea University of Applied Sciences in Helsinki, Finland, it was the university that granted ethical permission. This study was designed with the aim of using some data generated from the Master's thesis, but as it was a new study ethical permission was reapplied for. When this study commenced I was living and working in Finland but my doctoral studies were taking place in Sweden. The Nordic School of Public Health in Gothenburg, Sweden, informed me that I must obtain ethical permission from the country in which the research was conducted. In Finland it is the university you are enrolled in that grants ethical permission if the study is in social sciences. If the study is in medical sciences, permission is granted by a university hospital governed ethical committee. I contacted ETENE (The National Advisory Board on Social Welfare and Health Care Ethics) for advice on how to proceed and they advised me to apply for ethical permission from the Helsinki University Hospitals Research Committee of Coordinated Research. The committee replied saying that they could not grant me ethical permission as this study was a psychosocial health study and not medical research. I continued my pursuit for ethical approval by contacting the City of Espoo, where the study was taking place, enquiring about the ethical research committee of the City of Espoo and was told that this had some years earlier been shut down. I was informed that the current procedure was that I should instead enclose an attachment featuring detailed ethical aspects in my research plan when applying

for permission to conduct the study. Consent to conduct the study and ethical approval for it was subsequently granted from the Department of Education in the City of Espoo. Gathering consent for participation in the study presented an unforeseen challenge. The school granted the consent to conduct the study. Following that, consent for adolescent participation was requested from both adolescents and parents. This resulted in a few cases where the adolescent consented to participating in the study even though their parents did not. As the adolescents were minors a choice was made to not include these specific adolescents in the study despite them returning the surveys. Another challenge related to participation was the longitudinal nature of the study. Some students participated the first year but not the second or third years. Others consented to participate in the study but only answered the second and third year. This challenge was met by considering answers from each wave as an independent cohort.

One of the greatest challenges of this study was dealing with the great amount of data that this longitudinal, mixed method study produced. Qualitative and quantitative data were produced in *waves I* and *III* from both adolescents and parents, in *wave II* only from adolescents. Assigning each participant an identification number together with a code representing the gender and strength of SOC made it possible to follow each individual's pattern of movement between SOC groups, as well as gain insight into the factors believed to influence the development of SOC. Each wave of study was analysed as an independent cohort consisting of all of the participants in that specific wave. In the comparative analysis the students who participated throughout the study were identified by code. Descriptive quantitative analysis was preformed using SPSS on groups of adolescents, parents, gender, family and being in possession of a strong or weak SOC score. However, manual analysis was performed when comparing quantitative and qualitative findings of an individual, or specific groups, with findings from other individuals or groups. Keeping track of this data and performing quality checks to make sure that no mistakes were made was a large task that was facilitated by keeping specific 'analysis diaries' containing both data and comments about the data that came to mind as the analysis was performed.

No matter how much work is undertaken in designing, preparing and executing a study there is always the chance of unforeseeable and uncontrollable circumstances that may have an effect on the outcome of the study. In this study interviews were scheduled to take place between the 19th and 30th of April 2010. Unfortunately the week before the interviews were scheduled the Icelandic volcano Eyjafjallajökull erupted, covering large areas of northern Europe with ash, disrupting air travel as twenty countries closed their airspace to commercial traffic between the 14th and 20th of April. This unfortunate event coincided with the Easter

spring break and consequently led to the cancellation of nine interviews. Despite several attempts to reschedule these, the nine families decided to withdraw from the family interviews. They did however consent to continued participation in the rest of the study. An attempt to recruit new families to interview was made by contacting the deputy of the school and asking her to send out an email to all the families involved in the study asking for new volunteers, but no replies were received. A letter (Appendix 12) was sent to the 18 families who had participated in all three years of the study in the hope of recruiting more families to interview. Unfortunately no responses were received.

The loss of families to interview and its possible impact on the study was discussed with my supervisors at length. Initially it was thought that the interviews conducted with the remaining families would provide sufficiently detailed information to be able to present qualitative data as comparative cases. This was due largely to one family consisting of a weak adolescent with weak parents and the other two families consisting of strong adolescents with strong parents. However, once the data were analysed it became evident that one of the participants was easily identifiable and therefore it was deemed unethical to use the data provided by the families. In an attempt to compensate for the loss of qualitative data that would have been generated from the interviews a choice was made to design the surveys in *wave III* so that they contained several open-ended questions that were based on the semi-structured interview guide. The advantage of this was that surveys with open-ended questions allowed for data to be collected from a greater number of families. However, the drawback was that these data were not as in-depth and nuanced as the data from the interviews and lacked the data that eco-maps and genograms provided.

3.11 Chapter summary

The purpose of this chapter was to outline the philosophical underpinnings of this study and justify the fully integrated mixed method design chosen. Qualitative and quantitative data were collected through surveys and interviews in conjunction with genograms and eco-maps. Data analysis was discussed in detail, as were mixed method data quality and ethical considerations. This chapter also highlighted the challenges met during the research process and justified why some data was not reported as study findings. The next chapter will present personal reflections on the research journey itself, as well as give an account of the challenges met during the research process and how these challenges were dealt with.

Chapter Four – Research findings

4.1 Introduction

This chapter presents both quantitative findings from *waves I, II* and *III* and qualitative findings from *wave I* and *III*. The findings are presented in three subsections (Table 4.1).

Table 4.1: Presentation of findings

Research Aims	
To explore the Sense of Coherence (SOC) in a sample of Swedish-speaking Finnish adolescents and their parents, to explore the Sense of Coherence found in the family (SOFC), and to explore how family life, as a health-promoting context, is associated with the positive development of Sense of Coherence in adolescents thus enhancing the health and wellbeing of adolescents.	
Research objectives	**Findings**
Examine the Sense of Coherence in a sample of Swedish-speaking Finnish adolescents and their parents to view possible differences and changes over a 3-year period.	Quantitative data findings of SOC in adolescents, parents and families are presented in subsection 4.2
Explore and identify individual, environmental and social factors and daily practices found in the family context that are perceived as important for health and wellbeing and may contribute to the development of Sense of Coherence.	Qualitative data findings are presented in subsection 4.3 as categories representative of factors and processes believed influencing wellbeing. Quantitative data findings related to the categories are embedded.
Gain insight into the development of adolescents' Sense of Coherence within a family context to identify factors that could be attributed to differences in strength of Sense of Coherence and therefore be relevant to the development of a strong Sense of Coherence.	Integrated quantitative and qualitative data findings from waves I-III are presented in subsection 4.4 creating family profiles

Subsection 4.2 presents quantitative data collected throughout *waves I to III*. It starts with a presentation of participants and then presents both cross-sectional and longitudinal data concerning Sense of Coherence scores found in adolescents and parents, as well as Sense of Family Coherence scores. The subsection ends with a short summary of the main findings. Subsection 4.3 presents the findings from both qualitative and quantitative data. Qualitative findings, derived through content analysis of open-ended survey questions from *waves I* and *III,* are presented as four major categories. These categories represent factors and processes that adolescents and parents believe influence wellbeing. Quantitative data results pertaining to adolescent SOC are merged with qualitative findings and presented through each of the main categories. The subsection ends with a short summary of the main findings. Subsection 4.4 presents family profiles comprised of the aggregated quantitative and qualitative findings

pertaining to families with a strong SOFC score, and families with a weak SOFC score that participated throughout *waves I* to *III*. The subsection ends with a comparative summary of all families.

Quotes have been used in subsections 4.3 and 4.4 to illustrate qualitative findings. Examples of codes representing the participants answers are e.g. *'S girl 70'* or *'W boy 10',* implying that the respondent is a girl with identification number 70 in possession of a strong SOC score (S) or a boy with identification number 10 in possession of a weak SOC score (W). Codes representing parents are e.g. *'S mother'* or '*W father',* implying that the respondent is a mother in possession of a strong SOC score or a father in possession of a weak SOC score. Occasionally the findings are presented as 'strong girls' or 'strong boys' implying that the group mentioned are adolescents in possession of strong SOC scores, whereas 'weak girls' or 'weak boys' implies that adolescents are in possession of weak SOC scores. The same applies to parents. If there are no essential differences found in the answers from respondents in possession of strong SOC scores or in possession of weak SOC scores then only 'girls', 'boys', 'adolescents', 'mothers', 'fathers' and 'parents' are used to denote the answer. The research findings chapter ends with a synthesis of all findings.

4.2 Sense of Coherence

This subsection starts with a presentation of participants and a description of the participants' demographic characteristics asked in *wave I* such as gender, family status, and mother tongue. This is followed by a description of the SOC scores found in the adolescents, parents and families.

4.2.1 The participants

In total 65 adolescents and 56 families participated in the study (Table 4.2). The identification numbers of participants and their pattern of participation can be viewed for adolescents in Appendix 13 and for parents in Appendix 14.

Table 4.2: Participants in waves I, II and III

WAVE	N	STUDENTS	GIRLS	BOYS	MOTHERS	FATHERS	FAMILY
I	N=99	60 (61%)	37 (62%)	23 (38%)	49 (55%)	40 (45%)	56 (57%)
II	N=65	60 (92%)	35 (58%)	25 (42%)	-	-	-
III	N=65	48 (74%)	30 (62.5%)	18 (37.5%)	20 (67%)	10 (33%)	21 (44%)

All adolescents that participated in the study were born in 1995. In *wave I* (Table 4.3) almost three quarters (43; *n*=60) of the adolescents reported living with both parents, the rest lived with their mother (4; 7%) or with mother and father on an alternating schedule (13; 22%).

Table 4.3: Adolescent participant demographics from wave I

Gender of adolescent:	***All N*=60**	**Girls *n*=37 (62%)**	**Boys *n*=23 (38%)**
Lives with:			
Both parents	43 (72%)	24 (65%)	19 (83%)
With mother	4 (7%)	3 (8%)	1 (4%)
Alternating	13 (22%)	10 (27%)	3 (13%)
Mother tongue is:			
Swedish	53 (88%)	32 (87%)	21 (91%)
Finnish	5 (8%)	3 (8%)	2 (9%)
Other	2 (3%)	2 (5%)	-

Bilingual families are common in Finland and 24 adolescents (56%; *n*=43) from two parent families reported the family as bilingual. Fifty-three adolescents said Swedish was their mother tongue (88%; *n*=60), five said Finnish was their mother tongue (8%; *n*=60) and two claimed another language (3%; *n*=60). Data collected from the parents revealed that 22 fathers (56%; *n*=39) were Swedish speaking compared to 23 mothers (48%; *n*=48).

Wave I

The response rate for the adolescents was 61 per cent (60; *N*=99) with a distribution of 37 girls (62%; *n*=60) and 23 (38%; *n*=60) boys. Forty-nine mothers and 40 fathers of the 60 participating adolescents participated in *wave I* resulting in a 93 per cent family participation rate (*n*=56; total *n*=60). There was a 57 per cent response rate from both parents (*n*=32; total *n*=56) and a 43 per cent response rate from a single parent in the family (*n*=24; total *n*=56), with a distribution of 67 per cent mothers (*n*=16; total *n*=24) and 33 per cent fathers (*n*=8; total *n*=24).

Wave II

In *wave II* the survey was distributed only to the adolescents and resulted in a 92 per cent response rate from adolescents (60; *N*=65) with a distribution of 35 girls (58%; *n*=60) and 25 boys (42%; *n*=60).

Wave III

In *wave III* there was a 74 per cent response rate for the adolescents (48; *N*=65) with a distribution of 30 girls (62,5%; *n*=48) and 18 (37,5%; *n*=48) boys. Twenty mothers and 10 fathers participated in *wave III*. Twenty-one families participated in *wave III* resulting in a 44 per cent family response rate (*n*=21; total *n*=56).

4.2.2 Adolescent Sense of Coherence

In *wave I* the total mean score for the adolescent SOC score was 70 (*SD* 11) with a range between 40 and 90 (Table 4.4). Girls were associated with a SOC score of *M*=68, *SD*=11, range 40-85. By comparison, boys were associated with a numerically larger SOC score *M*=75, *SD*=11, range 43-90. An independent samples t-test was performed to check for statistically significant differences between the girls' (*M*=68, *SD*=11) and the boys' (*M*=75, *SD*=11) mean SOC scores with conditions *t*(58)=-2.56, *p*=0.01, which showed that there was a significant difference in mean SOC scores between genders.

In *wave II* the total mean for the adolescent SOC score was lower than in *wave I* with a SOC score of 65 (*SD* 12, *n*=60), ranging between 43 and 88 (Table 4.4). The girls' SOC score was 63 (*SD* 12, *n*=35), with a range 43-83 and the boys' score 69 (*SD* 10, *n*=25), with a range of 43-88. An independent samples t-test was performed to check for statistically significant differences between the girls' (*M*=63, *SD*=12) and the boys' (*M*=69, *SD*=10) mean SOC scores with conditions *t*(58)=-1.91, *p*=0.06, which showed that there was no significant difference in mean SOC scores between genders.

Table 4.4: Adolescent Sense of Coherence mean scores waves I-III

	Wave I	**Wave II**	**Wave III**
Adolescents	*N*=60 SOC 70 (*SD*=11)	*N*=60 SOC 65 (*SD*=12)	*N*=48 SOC 63 (*SD*=14)
Girls	*N*=37 SOC 68 (*SD*=11)	*N*=35 SOC 63 (*SD*=12)	*N*=30 SOC 58 (*SD*=14)
Boys	*N*=23 SOC 75 (*SD*=11)	*N*=25 SOC 69 (*SD*=10)	*N*=18 SOC 71 (*SD*=12)
t-test	*t*(58)=-2.56, *p*=0.01.	*t*(58)=-1.91, *p*=0.06.	*t*(46)=-3.16, *p*=0.03.

In *wave III* the total mean score for the adolescent SOC was 63 (*SD* 14, *n*=48) with a range between 29 and 89. For girls there was a continued drop in SOC scores in *wave III*, resulting in a score of 58 (*SD* 14, *n*=30), range 29-85, while the SOC scores of boys rose from *wave II*

resulting in a score of 71 (*SD* 12, *n*=18), range of 49-89 (Table 4.4). An independent samples t-test was performed to check for statistically significant differences between the girls' (*M*=58, *SD*=14) and the boys' (*M*=71, *SD*=12) mean SOC scores with conditions $t(46)=-3.16$, $p=0.03$, which showed that there was a significant difference in mean SOC scores between genders.

4.2.2.1 Strong – Weak groups of adolescents' SOC

As explained in chapter 3, subsection 3.6.1, dividing the SOC scores of all adolescents into quartiles created categories consisting of strong or weak SOC scores. Adolescents in the lowest quartile, with a SOC score between 40-64, were assigned a weak SOC and the remaining adolescents in possession a SOC score between 65-90 were assigned a strong SOC (Appendix 15). The categories were further divided by gender to allow for groups of girls or boys with strong SOC scores and girls or boys with weak SOC scores (Table 4.5). Strong and weak SOC mean scores found through *waves I* to *III* are shown in Table 4.6.

Table 4.5: Strong and weak Sense of Coherence adolescent groups

		Wave I *n*=60	**Wave II *n*=60**	**Wave III *n*=48**
Strong SOC	Strong Girl	24	14	10
	Strong Boy	20	18	12
	Total	44 (73%)	32 (53%)	22 (45%)
Weak SOC	Weak Girl	13	21	20
	Weak Boy	3	7	6
	Total	16 (27%)	28 (47%)	26 (54%)
		100%	100%	100%

Wave I

As a result of the strong-weak division of SOC, three quarters of adolescents (44; *n*=60) were assigned a strong SOC (Table 4.6) that averaged 76 (*SD*=6) while one quarter of adolescents (16; *n*=60) were assigned a weak SOC score averaging 55 (*SD*=7). Boys (87%; 20; *n*=23) who were assigned a strong SOC, averaged a numerically stronger SOC score (78, *SD*=6) than girls (65%; 24; *n*=37) who were assigned a strong SOC (74, *SD*=6). Boys (13%; 3; *n*=23) who were assigned a weak SOC, averaged a numerically weaker SOC score (54, *SD*=9) than girls (35%; 13; *n*=37) who were assigned a weak SOC score (55, *SD*=7).

Wave II

A strong SOC score (Table 4.6) averaging 74 (*SD*=6) was found in 32 adolescents (53%; *n*=60) and a weak SOC score averaging 55 (*SD*=6) was found in 28 adolescents (47%; *n*=60). A strong SOC score averaging 74 (*SD*=6) was found in 18 boys (72%; *n*=25) and 14 girls (40%; *n*=35) averaging 75(*SD*=6). A weak SOC score averaging 55 in both genders (boys *SD*=6 and girls *SD*=7) was found in seven boys (28%; *n*=25) and 21 girls (60%; *n*=35).

Wave III

A strong SOC score (Table 4.6) averaging 75 (*SD*=7) was found in 22 adolescents (46%; *n*=48), while 26 adolescents (54%; *n*=48) had a weak SOC score averaging 53 (*SD*=10). A strong SOC score averaging 78 (*SD*=6) was found in two thirds of boys (*n*=12; total *n*=18) and one third of girls (10; *n*=30) averaging 72 (*SD*=6). A weak SOC score averaging 56 (*SD*=5) was found in one third of boys (6; *n*=18) while two thirds of girls (20; *n*=30) had a SOC score that averaged 51 (*SD*=11).

Table 4.6: Strong and weak Sense of Coherence mean scores through waves I to III

	Wave I			**Wave II**			**Wave III**		
	SOC	*N*	%	SOC	*N*	%	SOC	*N*	%
Adolescents	70 (*SD*=11)	*60*	*100*	65 (*SD*=12)	*60*	*100*	63 (*SD*=14)	*48*	*100*
Strong	76 (*SD*=6)	*44*	*73*	74 (*SD*=6)	*32*	*53*	75 (*SD*=7)	*22*	*46*
Weak	55 (*SD*=7)	*16*	*27*	55 (*SD*=8)	*28*	*47*	53 (*SD*=10)	*26*	*54*
Girls	68 (*SD*=11)	*37*	*100*	63 (*SD*=12)	*35*	*100*	58 (*SD*=14)	*30*	*100*
Strong	*74* (*SD*=6)	*24*	*65*	*75* (*SD*=6)	*14*	*40*	*72* (*SD*=6)	*10*	*67*
Weak	*55* (*SD*=7)	*13*	*35*	*55* (*SD*=7)	*21*	*60*	*51* (*SD*=11)	*20*	*33*
Boys	75 (*SD*=11)	*23*	*100*	69 (*SD*=10)	*25*	*100*	71 (*SD*=12)	*18*	*100*
Strong	*78* (*SD*=6)	*20*	*87*	*74* (*SD*=6)	*18*	*72*	*78* (*SD*=6)	*12*	*67*
Weak	*54* (*SD*=9)	*3*	*13*	*55* (*SD*=6)	*7*	*28*	*56* (*SD*=5)	*6*	*33*

4.2.2.2 Changes in adolescent SOC between waves I, II and III

The cut-off points of the strong and weak categories in *wave I* were used as a baseline to track changes in the SOC scores between *waves I, II* and *III*. Changes in SOC scores between waves can be viewed in Table 4.7.

It is important to note that not all adolescents participated throughout *waves I to III*, some just participated in *waves I* and *III*. Therefore, in the following subsections percentages showing strong and weak SOC scores are based on the actual participants in each wave, while percentages showing changes in SOC scores are based on the participants who participated in the specific waves that are being compared. This accounts for what seems like inconsistencies in participant numbers and percentages throughout the findings chapter.

Table 4.7: Changes in Sense of Coherence mean scores between waves I, II and III

	Wave I - II		**Wave II – III**		**Wave I - III**	
	SOC	**Change % ↓↑**	**SOC**	**Change % ↓↑**	**SOC**	**Change % ↓↑**
Adolescents	70 - 65	7 % ↓	65 - 63	3 % ↓	70 - 63	10 % ↓
Girls	68 - 63	7 % ↓	63 - 58	8 % ↓	68 - 58	15 % ↓
Boys	75 - 69	8 % ↓	69 - 71	3 % ↑	75 - 71	5 % ↓
t-tests	$t(54)=3.63$, $p=0.001$.		$t(44)=1.05$, $p=0.30$.		$t(42)=3.55$, $p=0.001$.	

Changes between wave I to II

In *wave II* strong SOC scores were found in just under two thirds (26; *n*=41) of the adolescents that had originally started with a strong SOC score. The remaining adolescents (37%; 15; *n*=41) initially in possession of a strong SOC score moved to the weak SOC category. Three adolescents in possession of strong SOC scores in *wave I* did not participate in *wave II*. The majority of adolescents (79%; 11; *n*=14), initially in possession of a weak SOC score continued to stay in the weak category, while one fifth (3; *n*=14) moved to the strong category. Between *waves I* and *II* the SOC mean score found in all adolescents decreased by seven per cent from 70 to 65 points.

The majority of boys (83%; 15; *n*=18) initially in possession of a strong SOC score, stayed in the strong SOC group while three (17%; *n*=18) moved to the weak SOC group. Two thirds of the boys (2; *n*=3) who where initially in possession of a weak SOC score stayed in the weak SOC group and one third (1; *n*=3) moved to the strong SOC group. There was greater movement between categories for girls. In the group of girls that were initially in possession of a strong SOC score less than half (11; *n*=23) stayed in the strong group while more than half (12; *n*=23) moved to the weak SOC group. The majority of the girls (9; *n*=11) that were

initially in possession of a weak SOC score stayed in the weak SOC group, however a couple (2; *n*=11) moved to the strong SOC group. Despite the numerically greater movement from strong to weak categories for the girls, their SOC mean scores decreased only seven per cent from 68 to 63 points, compared with the boys whose SOC mean score decreased by eight per cent from 75 to 69 points. SOC scores were significantly higher (M=5.02, SD=10.2), $t(54)=3.63$, $p=0.001$ in wave I than in wave II (see Table 4.7).

Changes between wave II to III

Between *waves II* and *III* the overall adolescent SOC mean score decreased by three per cent. A strong SOC score was found in just more than half (17; *n*=31) of the adolescents that were initially assigned a strong SOC score, the remaining former strong SOC adolescents (14; *n*=31) moved to a weak category. Three quarters of the adolescents in possession of a weak SOC score (9; *n*=12) remained in the weak SOC category, while a quarter moved to the strong SOC category (3; *n*=12). The majority of the boys initially assigned a strong SOC score (11; *n*=14) stayed in the strong SOC group while the rest (3; *n*=14) moved to the weak SOC group. Of the boys initially in possession of a weak SOC score three stayed in the weak SOC group (60%; *n*=5) while two moved to the strong SOC group (40%; *n*=5).

In the group of girls initially in possession of a strong SOC score a third (6; *n*=17) stayed in the strong group while two thirds of the girls moved to the weak SOC group (11; *n*=17). Three quarters of the girls initially in possession of a weak SOC score (9; *n*=12) stayed in the weak SOC group while a quarter moved to the strong SOC group (3; *n*=12). Ultimately this meant that the SOC mean score decreased for girls by eight per cent and increased by three per cent for boys. SOC scores were not significantly higher (M=1.8, SD=11.7), $t(44)=1.05$, $p=0.30$ in *wave II* than in *wave III* (see Table 4.7).

Changes between wave I to III

There was a 10 per cent decline of the overall SOC mean score for the adolescents between *waves I* and *III*. Initially the boys' SOC mean scores decreased slightly more than the girls,' however ultimately between *waves I* and *III* the SOC mean scores for girls decreased by 15 per cent and for the boys only by five per cent. SOC scores were significantly higher (M=6.9, SD=12.7), $t(42)=3.55$, $p=0.001$ in *wave I* than in *wave III* (see Table 4.7).

4.2.3 Parental Sense of Coherence

Fifty-six families participated in *wave I*. In 55 per cent of families both parents filled out the questionnaire (31; *n*=56). In the remaining families one parent (45%; 25; *n*=56) filled out the questionnaire; with a distribution of 68 per cent mothers (17; *n*=25) and 32 per cent fathers (8; *n*=25) answering.

In *wave I* mothers had a SOC score averaging 73 (*SD* 9), range 43-88 and fathers 72 (*SD* 11), range 35-88. Three quarters of the mothers were assigned a strong SOC score (36; *n*=48) averaging 77 (*SD* 5) while the remaining mothers (12; *n*=48) were assigned a weak SOC score averaging 60 (*SD* 6). This was mirrored in the fathers' SOC score. A strong SOC score averaging 77 (*SD* 7) was found in 75 per cent of the fathers (30; *n*=40) and a weak SOC score averaging 59 (*SD* 10) was found in a quarter of the fathers (10; *n*=40). There were no significant differences between the total mean SOC scores of the mothers and the fathers found in *waves I* and *III* (Table 4.8). Appendix 14 shows parental participation patterns and Appendix 16 shows parent participants in strong – weak subgroups.

Table 4.8: Strong and weak Sense of Coherence mean scores in parents

	Wave I			**Wave III**			**Change % ↓↑**
	SOC	*N*	%	SOC	*N*	%	
Mothers	73 (*SD*=9)	48	100	71 (*SD*=10)	20	100	3 % ↓
Strong	*77* (*SD*=5)	36	75	*76* (*SD*=7)	14	70	1 % ↓
Weak	*60* (*SD*=6)	12	25	*59* (*SD*=7)	6	30	2 % ↓
Fathers	72 (*SD*=11)	40	100	72 (*SD*=12)	10	100	-
Strong	*77* (*SD*=7)	30	75	*81* (*SD*=5)	6	60	3 % ↑
Weak	*59* (*SD*=10)	10	25	*59* (*SD*=4)	4	40	-

Twenty-one families participated in *wave III*, with a 33 per cent response rate from both parents (7; *n*=21) and a 67 per cent response rate from one of the parents in the family (14; *n*=21), with a distribution of 79 per cent mothers (11; *n*=14), and 21 per cent fathers (3; *n*=14) answering.

The total mean score for the mothers' SOC score in *wave III* was 71 (*SD* 10), range 49-86 and for the fathers 72 (*SD* 12), range 55-88. A strong SOC score averaging 76 (*SD* 7) was found in 70 per cent of the mothers (14; *n*=20) and a weak SOC score averaging 59 (*SD* 7) in 30 per cent of the mothers (6; *n*=20). A strong SOC score averaging 81 (*SD* 5) was found

in 60 per cent of the fathers (6; *n*=10) and a weak SOC score averaging 59 (*SD* 4) in 40 per cent of the fathers (4; *n*=10).

There was a three per cent decline in the overall SOC mean score for mothers between *waves I* and *III*. For mothers in possession of strong SOC scores the decrease was one per cent and for mothers in possession of weak SOC scores the decrease was two per cent. For fathers in possession of strong SOC scores there was a three per cent increase between *waves I* and *III*. However, the overall SOC mean score for the fathers remained the same in both waves.

Aggregated parental SOC scores were calculated only within the 18 families that participated throughout *waves I* to *III* as these families were studied in detail for factors that might be relevant in the development of adolescent SOC. These are presented in section 4.4.

4.2.4 Sense of Family Coherence

A family data unit consists of an answer from an adolescent together with either one or two of his or her parents. Sense of Family Coherence (SOFC) was measured using an aggregation model. This means that SOFC is reported as the mean of the total sum of the family members' individual Sense of Coherence. Sense of Family Coherence (Table 4.9) was measured in 56 families in *wave I* and in 21 families in *wave III*. In *wave I* the Family Sense of Coherence mean score was 72 (*SD* 8), range 42-85. The mean score for the Family Sense of Coherence in *wave III* was 67 (*SD* 10), range 48-84.

Table 4.9: Sense of Family Coherence mean scores waves I and III

	Wave I			**Wave III**			**Change % ↓↑**
	SOC	*N*	%	SOC	*N*	*%*	
Family	72 (*SD*=8)	56	100	67 (*SD*=10)	21	100	7 % ↓
Strong	*76* (*SD*=5)	43	77	*76* (*SD*=5)	11	52	-
Weak	*61* (*SD*=6)	13	23	*59* (*SD*=7)	10	48	3 % ↓

Families were divided into strong and weak family categories. This was achieved as explained in chapter 3, subsection 3.6.1, by dividing the SOFC scores into quartiles, as with the adolescent SOC scores. The families in the lowest quartile, with SOFC scores between 42-66, were assigned a weak SOFC score while the remaining families with a SOFC score between 67-85 were assigned a strong SOFC score.

By assigning strong and weak scores to both adolescents and families it was possible to generate eight different adolescent-family subgroups (Table 4.10). The categories, with the identification numbers of participants found within these subgroups, in *waves I* and *III*, can be viewed in Appendix 15.

Table 4.10: Adolescent – family subgroups

	Strong Adolescent		**Weak Adolescent**	
Strong Family	Strong Girl in Strong Family	Strong Boy in Strong Family	Weak girl in Strong Family	Weak Boy in Strong Family
Weak Family	Strong Girl in Weak Family	Strong Boy in Weak Family	Weak Girl in Weak Family	Weak Boy in Weak Family

4.2.4.1 Correlation between family members' SOC scores

A significant positive correlation was found between adolescents' SOC scores and SOFC scores (Table 4.11). There was a significant correlation between adolescents' SOC scores and fathers' SOC scores, and a negative correlation between boys' SOC scores and mothers' SOC scores.

A strong positive correlation was found between adolescents in possession of a strong SOC score (r = .72, *n*=44, p<.01) and fathers who were in possession of strong SOC scores. Boys in possession of strong SOC scores had a strong negative correlation (r = -1.0, *n*=20, p<.01) with fathers in possession of weak SOC scores. A positive correlation was found between strong SOFC scores and both girls in possession of a strong SOC score (r = .47, *n*=24, p<.05) and boys in possession of a strong SOC score (r =.65, *n*=20, p<.01).

Table 4.11: Correlation between family members Sense of Coherence scores

	Adolescent SOC	**Girl SOC**	**Boy SOC**
Family SOC	.796**	.754**	.873**
Mothers SOC	.172	.245	-.018
Fathers SOC	.428**	.408*	.873**

***p<.01, *p<.05*

4.2.4.2 Strong-Weak groups of SOFC

In *wave I* a strong SOFC averaging 76 (*SD* 5) was found in three quarters of the families (43; *n*=56) and a weak SOFC averaging 61 (*SD* 6), was found in one quarter of the families (13 *n*=56). Table 4.8 (page 89) shows a seven per cent decline in the overall SOFC mean score between *waves I* and *III*. The SOFC mean score for families in possession of a strong SOFC remained the same in both waves. In families in possession of a weak SOFC score there was a three per cent decrease in SOFC scores.

Wave I

More than three quarters of the adolescents were situated in families in possession of strong SOFC scores (43; *n*=56) with a distribution of 20 boys (47%; *n*=43) and 23 girls (53%; *n*=43). A quarter of adolescents (13; *n*=56) were situated in families in possession of weak SOFC scores, with a distribution of two boys (15%; *n*=13) and 11 girls (85%; *n*=13).

There was more than seven times greater likelihood for adolescents in possession of strong SOC scores (88%; 38; *n*=43) than for adolescents in possession of weak SOC scores (12%; 5; *n*=43) to belong to a family in possession of a strong SOFC score. A similar pattern was detected in adolescents in possession of weak SOC scores, where almost two-thirds of adolescents in possession of weak SOC scores (9; *n*=14) belonged to families in possession of weak SOFC scores and the remaining (5; *n*=14) belonged to families in possession of strong SOFC scores (Table 4.12).

Table 4.12: Adolescents in families with strong or weak Sense of Family Coherence

SOFC	**Strong Girl**	**Strong Boy**	**Weak Girl**	**Weak Boy**	**Total**	
STRONG SOFC						
Wave I	19	19	4	1	43 (77%)	*N*=56
Wave III	6	4	4	-	14 (67%)	*N*=21
WEAK SOFC						
Wave I	4	-	7	2	13 (23%)	*N*=56
Wave III	-	-	6	1	7 (33%)	*N*=21

Wave III

Two thirds of adolescents (14; *n*=21) belonged to families in possession of strong SOFC scores, four boys and 10 girls, leaving one-third of adolescents (7; *n*=21) belonging to families in possession of weak SOFC scores, one boy and six girls All adolescents in possession of strong SOC scores were situated in families in possession of strong SOFC scores. Two-thirds of adolescents in possession of weak SOC scores (7; *n*=11) were situated

in families in possession of weak SOFC scores, one boy and six girls leaving the remaining adolescents, all girls, in possession of weak SOC scores (36%; 4; *n*=11) situated in families in possession of strong SOFC scores.

4.2.5 Summary and interpretation of Sense of Coherence findings

Analysis of adolescent, parental and family Sense of Coherence throughout *waves I* to *III* revealed that strong and weak SOC scores were prevalent in both genders. In *wave I* three quarters of adolescents were in possession of strong SOC scores. A decline in the total mean SOC score in adolescents was found between *waves I* and *III.* Boys were found to be in possession of a stronger mean SOC score throughout the study than girls, with a five per cent decrease in the mean SOC score compared to girls who had a 15 per cent decrease. Similar findings were found with parental SOC scores. Strong and weak scores were prevalent in both genders. There was however very little difference in mean parental SOC scores between genders. Initially the data showed that only mothers, both with strong SOC scores and with weak SOC scores, had a decline in their mean SOC between *waves I* and *III*. An increase was found in the mean SOC score of fathers with strong SOC scores whilst the mean SOC of fathers with weak SOC scores remained the same. However, closer inspection of the data findings for fathers with weak SOC scores showed that one father had a significant increase in his SOC score thus affecting the mean SOC score positively, whilst the majority of remaining fathers had a decrease in their SOC scores. A significant positive correlation was found between adolescents' SOC scores and the fathers' SOC scores, whilst a negative correlation was found between boys' SOC scores and mothers' SOC scores. In *wave* I a strong positive correlation was found between boys and fathers with strong SOC scores and in *wave III* only boys and fathers had an increase in their SOC mean scores. These findings indicate that there is a reciprocal relationship between adolescent and parental SOC.

A significant positive correlation was found between adolescents' SOC scores and SOFC scores. While three quarters of families were found to have a strong SOFC score in *wave I*, this dropped to just over half in *wave III*. The majority of adolescents that belonged to families with strong SOFC scores in *wave I* were themselves in possession of strong SOC scores. In families with weak SOFC scores two thirds of adolescents had weak SOC scores. In *wave III* all adolescents with strong SOC scores were situated in strong SOFC families. These specific findings indicate that a strong SOFC has a positive effect on the development of adolescent SOC scores, whereas a weak SOFC had a negative effect on adolescent SOC scores.

4.3 Factors contributing to wellbeing and the development of Sense of Coherence

This subsection presents both qualitative and quantitative data findings that emerged in meeting the research objective that aimed to explore and identify individual, environmental and social factors and daily practices found in the family context that are perceived as important for health and wellbeing and may contribute to the development of Sense of Coherence.

The qualitative data findings presented in this subsection were derived through content analysis of open-ended survey questions from *waves I* and *III*. The findings presented are identified, by both adolescents and parents, as factors and practices found in the family context that are perceived as important for health and wellbeing. Analysis of the data revealed 41 minor categories that were assigned into four major categories labelled as 'Connectedness', 'Health', 'Possession of external and internal resources' and 'Family processes' (Table 4.13).

Table 4.13: Major and minor categories of issues believed to influence wellbeing

Major categories	**Minor categories**
Connectedness	Social networks, Having friends, Reliable friends, Closeness to family, Supportive and caring relationships, Feeling loved by parents, Being able to talk to parents, Feeling accepted by friends and not bullied (8 categories)
Health	Feeling well, Being healthy, Healthy lifestyle, Absence of disease, Good physical health, Good social health, Good mental health, Family is healthy, Friends are healthy, Parents promote health (10 categories)
Possession of external and internal resources	Having access to resources, Secure environment, Material possessions, Financial stability, Hobbies, Work / School, Belief in self, Feeling loved, Routines, Rules, Boundaries, Acceptance, Contentment, Stress management, Happiness, Trust, Positive outlook on life (17 categories)
Family processes	Time spent with family, Family communications, Everyday family activities, Family traditions, Satisfaction with family relationships, Satisfaction with family life (6 categories)

Presented within each of the qualitatively derived categories are quantitative data findings concerning adolescent SOC, and qualitative quotes given by adolescents and parents. Numerous quotes have been used to demonstrate the differences in both content and articulation of data given by respondents in possession of strong SOC scores and those in possession of weak SOC scores.

4.3.1 Connectedness

Several different types of social networks were mentioned in contributing to adolescent wellbeing. Social networks were seen to have several functions deemed important to wellbeing. They were said to function as a basis for relationships, as a forum for communication, as a forum for teaching and learning, as a protective element against health risks and as a source of both emotional wellbeing and distress. Almost all adolescents and parents identified relationships as important for their wellbeing.

Experiencing a sense of connectedness and caretaking from the immediate social environment was found to be the most significant contributor to their wellbeing. Close, caring and supportive relationships with friends and family were seen as significant for wellbeing. Almost all adolescents mentioned friends before family as crucial to their wellbeing. Parents in contrast, mentioned family first. Parents also mentioned friends as important, but it was more common for women than for men to mention friends. Adolescents highlighted having many friends as important. Several parents with strong SOC mentioned the significance of reliable and trustworthy relationships. Parents considered it important that their children not only had friends, but friends they could trust. Both adolescents and parents mentioned bullying as detrimental to the wellbeing of adolescents.

4.3.1.1 Adolescent SOC and connectedness

In *wave I* more than half of adolescents (35; *n*=60), stated that social relationships were important for wellbeing (Table 4.14). The predominant relationships mentioned were friends and family, including extended family, teachers and sports-coaches. Adolescents with strong SOC scores for the majority described relationships as positive, often including a descriptive emotional component such as *'loving family or parents'* or *'friends who care'*. Adolescents with weak SOC scores on the other hand quite often just reported *'family'* and *'friends'* as important for wellbeing. In *wave III* almost two thirds of all adolescents (63%; 30; *n*=48) believed that social relationships were important for wellbeing.

In *wave I* a majority of the adolescents (70%; 31; *n*=44) with strong SOC scores, 19 girls and 12 boys, mentioned connectedness as important for wellbeing, giving examples such as: *'Being surrounded by people you love and who love you (S girl 70)'* and *'Good relationships with your family and that you have good and reliable friends (S girl 82)'*. In *wave III* more boys with strong SOC scores than girls believed social relationships important for wellbeing. The majority of the boys who said relationships were important for wellbeing mentioned specifically peer relationships.

In *wave I* only one quarter of adolescents (25%; 4; *n*=16) with weak SOC scores, all girls, said that social relationships were important to wellbeing. In *wave III* however more than half of adolescents with a weak SOC score believed connectedness was important for wellbeing.

Table 4.14: Connectedness as a contributor to wellbeing

	Strong Girl	**Weak Girl**	**Strong Boy**	**Weak Boy**
Wave I	19 (79%; *n*=24)	4 (31%; *n*=13)	12 (60%; *n*=20)	0 (0%; *n*=3)
Wave III	6 (60%; *n*=10)	12 (60%; *n*=20)	9 (75%; *n*=12)	3 (50%; *n*=6)

Both girls and boys felt connected to family throughout the study. In *wave I* the mean score of the family connectedness scale was 21.7 (*SD* 3.5, *n*=59), range 6-24. An independent samples t-test was performed between the girls' (*M*=21.3, *SD*=4.1) and the boys' (*M*=22.4, *SD*=2.1) family connectedness mean scores with conditions $t(57)=-1.17$, $p=0.25$, which indicated that there was no statistical significant difference in mean scores between genders. In *wave II* the total mean score of family connectedness scale was 20.8 (*SD* 3.2, *n*=59), range 6-24. An independent samples t-test was performed between the girls' (*M*=20.1, *SD*=2.9) and the boys' (*M*=20.1, *SD*=3.7) family connectedness mean scores with conditions $t(57)=0.06$, $p=0.95$, which indicated that there was no statistical significant difference in mean scores between genders. In *wave III* the total mean score of family connectedness scale was 21.3 (*SD* 2.7, *n*=48), range 6-24. An independent samples t-test was performed between the girls' (*M*=21.0, *SD*=3.0) and the boys' (*M*=21.8, *SD*=2.1) family connectedness mean scores with conditions $t(46)=-1.00$, $p=0.32$, which indicated that there was no statistical significant difference in mean scores between genders.

In *wave I* a strong positive correlation was found ($r=.42$, $n=60$, $p<.01$) between adolescents' SOC scores and feeling strongly connected to one's family. This was especially true for boys ($r=.54$, $n=19$, $p<.05$) with strong SOC scores. The majority of adolescents felt strongly connected to their family, with a distribution of 33 girls and 22 boys (Table 4.15). One person did not answer the question in *waves I* and *II*.

Table 4.15: Adolescents feeling strongly connected to family

	All adolescents	**Girls**	**Boys**
Wave I	55 (93%; *n*=59)*	33 (89%; *n*=37)	22 (100%; *n*=22)
Wave II	56 (93%; *n*=59)*	33 (94%; *n*=35)	23 (96%; *n*=24)
Wave III	47 (98%; *n*=48)	29 (97%; *n*=30)	18 (100%; *n*=18)

*= One person did not answer the question

A one-way between subjects ANOVA was conducted to compare the differences in mean scores of family connectedness between the following groups: girls with strong SOC scores, girls with weak SOC scores, boys with strong SOC scores and boys with weak SOC scores. In *wave I* there were statistically significant differences between groups as determined by one-way ANOVA ($F(3,55)=2.904$, $p=.043$). Post hoc comparisons using the Tukey HSD test indicated that there was a statistically significant difference between the mean score for girls with weak SOC scores (M=19.5, SD=4.2) and the mean scores for boys with strong SOC scores (M=22.7, SD=1.3, $p=.045$). However there were no statistically significant differences between the mean scores of boys with weak SOC scores (M=20.3, SD=4.7, $p=.98$) and the mean scores of girls with strong SOC scores (M=22.3, SD=3.7, $p=.082$). In *wave II* there were no statistically significant differences between group means as determined by one-way ANOVA ($F(3,55)=2.565$, $p=.06$). In *wave III* there were no statistically significant differences between group means as determined by one-way ANOVA ($F(3,44)=1.202$, $p=.32$).

Almost all adolescents (98%; 42; $n=43$) with strong SOC scores felt strongly connected to their family, with a distribution of 23 girls and 19 boys. More than three quarters of adolescents (81%; 13; $n=16$) with weak SOC scores felt strongly connected to family, with a distribution of three boys and 10 girls (Table 4.16). All adolescents feeling strongly connected to family in *wave I* continued to do so through *waves II* and *III*.

Table 4.16: Sense of Coherence and feeling strongly connected to family

	Strong Girl	**Weak Girl**	**Strong Boy**	**Weak Boy**
Wave I	23 (98%; $n=24$)	10 (77%; $n=13$)	19 (100%; $n=19$)	3 (100%; $n=3$)
Wave II	14 (100%; $n=14$)	19 (82%; $n=21$)	18 (100%; $n=18$)	5 (86%; $n=6$)
Wave III	10 (100%; $n=10$)	19 (%; $n=20$)	12 (100%; $n=12$)	6 (100%; $n=6$)

Relationships with friends were considered important for wellbeing. In *wave I* the majority (92%) of adolescents stated to have three or more friends and no one stated that they had no friends. In *wave III* one girl with a weak SOC score, claimed to have no friends, while 40 adolescents (83%) claimed to have more than three friends. When in *wave I* the adolescents were asked if they ever felt lonely, 34 adolescents answered 'no' (58%). One boy with a strong SOC did not answer the question. It was more common for adolescents with strong SOC scores (65%) not to feel lonely, with a distribution of 12 girls and16 boys than for adolescents with weak SOC scores (38%) with a distribution of four girls and two boys. In adolescents with strong SOC scores worrying about friendships was exclusive to girls, with a

smaller percentage of girls with strong SOC scores (17%) worrying about friendships compared to girls with weak SOC scores (46%).

Both girls and boys felt connected to school throughout the study. In *wave I* the total mean score of school connectedness scale was 9.5 (*SD* 1.4, *n*=60), range 4-12. An independent samples t-test conducted to check between the girls' (*M*=9.4, *SD*=1.4) and the boys' (*M*=9.8, *SD*=1.2) school connectedness mean scores with conditions *t*(58)=-1.11, *p*=0.27, indicated that there was no statistical significant difference in mean scores between genders. In *wave II* the total mean score of school connectedness scale was 8.8 (*SD* 1.7, *n*=60), range 6-24. An independent samples t-test was conducted to check between the girls' (*M*=8.6, *SD*=1.6) and the boys' (*M*=9.2, *SD*=1.7) school connectedness mean scores with conditions *t*(58)=-1.45, *p*=0.15, indicated that there was no statistical significant difference in mean scores between genders. In *wave III* the total mean score of school connectedness scale was 8.9 (*SD* 2.3, *n*=48), range 6-24. An independent samples t-test was performed to check between the girls' (*M*=8.4, *SD*=2.1) and the boys' (*M*=9.7, *SD*=2.3) school connectedness mean scores with conditions *t*(46)=-1.94, *p*=0.05, indicated that there was no statistical significant difference in mean scores between genders.

A one-way between subjects ANOVA was conducted to compare the differences in mean scores of school connectedness between the following groups: girls with strong SOC scores, girls with weak SOC scores, boys with strong SOC scores and boys with weak SOC scores. In *wave I* there were no statistically significant differences between group means as determined by one-way ANOVA (*F*(3,56)=1.871, *p*=.15). In *wave II* there were no statistically significant differences between group means as determined by one-way ANOVA (*F*(3,56)=2.452, *p*=.073). In *wave III* there was a statistically significant difference between group means as determined by one-way ANOVA (*F*(3,44)=2.811, *p*=.050). Post hoc comparisons using the Tukey HSD test indicated that the mean score for boys with strong SOC scores (M=10.3, SD=1.7) was statistically significantly different to the mean scores for girls with strong SOC scores (M=8.2, SD=2.2, *p*=.041). However the difference is not significant compared to the mean scores of boys with weak SOC scores (M=8.6, SD=3.4, *p*=.47) or to the mean scores of girls with weak SOC scores (M=8.4, SD=1.9, *p*=.14).

The findings showed that adolescent SOC correlated positively (r =.34, *n*=60, p<.01) with feeling strongly connected to school. There was a strong positive correlation for girls with strong SOC scores (r =.47, *n*=24, p<.05) and feeling strongly connected to school. In *wave I* almost all adolescents felt strongly connected to school, with the exception of one girl with a

weak SOC score. There was a decrease of adolescents feeling strongly connected to school in *waves II* and *III* (Table 4.17).

Table 4.17: Adolescents feeling strongly connected to school

	All adolescents	**Girls**	**Boys**
Wave I	59 (98%; *n*=60)	36 (97%; *n*=37)	23 (100%; *n*=23)
Wave II	51 (85%; *n*=60)	28 (80%; *n*=35)	23 (92%; *n*=25)
Wave III	38 (79%; *n*=48)	21 (70%; *n*=30)	17 (94%; *n*=18)

It was mainly girls with weak SOC scores who felt they were not strongly connected to school (Table 4.18). This could be seen in *wave II* where five girls with weak SOC scores compared to two girls with strong SOC scores did not feel connected to school. In *wave III* seven girls with weak SOC scores compared to one girl with a strong SOC score did not feel connected to school. All boys with strong SOC scores remained strongly connected to school throughout *waves I* to *III*, while in *wave II* two boys with weak SOC scores and in *wave III* one boy with a weak SOC score felt they were not strongly connected to school.

Table 4.18: Sense of Coherence and feeling strongly connected to school

	Strong Girl	**Weak Girl**	**Strong Boy**	**Weak Boy**
Wave I	24 (100%; *n*=24)	12 (38%; *n*=13)	20 (100%; *n*=20)	3 (100%; *n*=3)
Wave III	12 (86%; *n*=14)	16 (76%; *n*=21)	18 (100%; *n*=18)	5 (75%; *n*=7)
Wave III	9 (90%; *n*=10)	13 (65%; *n*=20)	12 (100%; *n*=12)	4 (83%; *n*=6)

Feeling strongly connected to school decreased simultaneously as worrying about school related issues increased. In *wave I* almost one third of adolescents claimed to worry about school. It was mostly girls in possession of strong SOC scores that worried about school in *wave I*. In *wave III* more than half of adolescents worried about school, with exams being the main reason for worrying. In *wave III* three quarters of girls with weak SOC scores worried about school, compared to one third of girls with strong SOC scores (3; *n*=10) and half of boys with weak SOC scores and almost half of boys with strong SOC scores

4.3.2 Health

Being in possession of good health was seen as significant to wellbeing. This was especially true for parents with strong SOC. Health and wellbeing were described as having a feeling of good health, as partaking in a healthy lifestyle, and as the absence of disease. Girls mentioned more frequently than boys the importance of having a healthy lifestyle and how

this impacts on their wellbeing. Several adolescents and parents mentioned health and wellbeing in relation to physical, mental and social dimensions. Adolescents saw parents as providers of health promotion within the three dimensions of health, with parents having responsibility for the provision of healthy food, supporting them emotionally during difficult times and organizing social events with friends and relatives.

Health was not reflected upon as just a personal issue. Both adolescents and parents mentioned the health of family and friends. Especially parents expressed concern about the health of their children or ageing parents. Some adolescents stated that they were worried about the health of family members. However the majority of adolescents who worried about health issues were worried about their own health.

4.3.2.1 Adolescent SOC and health

Almost all adolescents (58; *n*=60) perceived their health as good or very good despite almost a quarter (13; *n*=60) having an illness that has been diagnosed by a doctor. The illnesses that adolescents mentioned were allergies, asthma, eczema, glaucoma, dyslexia and diabetes. In *wave I* a strong positive correlation was found between Sense of Coherence and self perceived good health (r = .41 *n*=60, p<.01) for all adolescents. In *wave I* all adolescents with a strong SOC score perceived they had good or very good health, compared to 88 per cent of adolescents with a weak SOC score (Table 4.19).

Table 4.19: Sense of Coherence and self-perceived health

	All adolescents	**Strong SOC**	**Weak SOC**
Wave I	58 (97%; *n*=60)	44 (100%; *n*=44)	14 (88%; *n*=16)
Wave II	57 (95%; *n*=60)	31 (97%; *n*=32)	26 (93%; *n*=28)
Wave III	44 (92%; *n*=48)	22 (100%; *n*=22)	22 (85%; *n*=26)

Similar results were found in the following waves. Results from *wave II* showed that almost all adolescents (57; *n*=60) perceived their health as good or very good. Almost all adolescents with strong SOC scores claimed to have good health, with the exception of one boy described his health as not so good. The majority of adolescents in possession of weak SOC scores said they have good or very good health, with the exception of two girls who described their health as not so good. In *wave III* once again the majority of the adolescents perceived their health as good or very good. All adolescents in possession of strong SOC scores claimed to have good health compared to 85 per cent of adolescents in possession of a weak SOC scores. Four adolescents in possession of weak SOC scores, all girls, described

their health as no so good. The findings show that adolescents with a strong SOC perceive their health as better than those adolescents with a weak SOC score.

In *wave I* approximately one third of the adolescents (30%; 18; *n*=60) thought health to be a contributor to wellbeing. Health was often mentioned through basic examples such as *'Having good health (S girl 7)'* and *'Being healthy (W girl 22)'*. However, some adolescents in possession of strong SOC scores related health to a larger context: *'You and those closest to you are healthy and well (S girl 23)'* and *" That the family's health is good (S boy 85)'*. Two thirds of adolescents claimed to practice a healthy life style. The majority of these had strong SOC scores. No boys with weak SOC scores claimed to practice a healthy lifestyle.

There was an increase in believing that health is important as a contributor to wellbeing for adolescents, independent of strength of the SOC, between *waves I* and *III* (Table 4.20). At the same time statements relating to health became more detailed. In *wave III* many adolescents mentioned several dimensions of health and gave examples of specific behaviours affecting health. This can be seen in the following statements: *'That you feel well both physically and mentally (W girl 39)','That you have a healthy lifestyle (W boy 10)', 'That you don't smoke, you eat and sleep well (S girl 69)'* and *'You feel well; physically, mentally and socially (S boy 33)'*.

Table 4.20: Health as a contributor to wellbeing

	Strong Girl	**Weak Girl**	**Strong Boy**	**Weak Boy**
Wave I	6 (*n*=24)	5 (*n*=13)	6 (*n*=20)	1 (*n*=3)
Wave III	8 (*n*=10)	10 (*n*=20)	6 (*n*=12)	3 (*n*=6)

When adolescents, in *wave I*, were asked what worried them, four girls out of 24 with strong SOC scores and three girls out of 13 with weak SOC scores said they worry about issues related to physical health, mentioning examples such as: *'My own health, eating bad things and having bad eating habits (S girl 53)',* Boys with strong SOC scores did not claim to worry about issues related to physical health, however two out of three boys with weak SOC scores did. Two girls out of 24 with strong SOC scores and two girls out of 13 with weak SOC scores said they worried about issues related to mental health. No boys at all claimed to worry about mental health issues. In *wave III* only girls with weak SOC scores mentioned worrying about health or mental health.

Adolescents were asked in *wave I* if they have or have had an eating disorder. Almost all (95%; 57; *n*=60) answered 'no', two left the question unanswered and one girl said she had anorexia. Adolescents were also asked if they believed they could be at risk for developing an eating disorder. The majority (85%; 51; *n*=60) believed there was not a risk, however eight adolescents (6 girls and 2 boys) believed they could be at risk. The results from the SCOFF scale completed in *wave II* showed that the majority of adolescents were at no or little risk of having an eating disorder (83%; 54; *n*=59). The total mean score of the SCOFF scale was 0.36 (*SD* 0.8, *n*=59), range 0-4. An independent samples t-test was performed between the girls' (*M*=0.3, *SD*=0.1) and the boys' (*M*=0.42, *SD*=0.2) SCOFF mean scores with conditions $t(57)=-0.51$, $p=0.62$, which indicated that there was no statistical significant difference in mean scores between genders.

A one-way between subjects ANOVA was conducted to compare the differences in mean scores of SCOFF between the following groups: girls with strong SOC scores, girls with weak SOC scores, boys with strong SOC scores and boys with weak SOC scores. There were no statistically significant differences between group means as determined by one-way ANOVA ($F(3,55)=.601$, $p=.62$).

When adolescents were asked in *wave I* about their perception of their body size the majority (77%; 46; *n*=60) said they were just the right size (Table 4.21). However, nine per cent of adolescents with strong SOC scores said they were too fat, with a distribution of one boy and three girls. This is a much smaller percentage in comparison to 38 per cent of adolescents with weak SOC scores saying they felt too fat, with a distribution of 4 girls and 2 boys.

Table 4.21: Body image, body size and feeling a need to diet

Sample	***N***	**Positive perception of body size**		**Content with body image**		**Feel they need to diet**	
		n	%	*n*	%	*n*	%
All adolescents	60	46	77	53 (*n*=59)*	90	8 (*n*=59)*	14
Strong SOC	44	37	84	41 (*n*=43)*	95	2	5
Weak SOC	16	9	56	12	75	6 (*n*=15)*	40
Girls	37	27	73	32	89	6 (*n*=36)*	17
Strong girls	24	19	79	22	92	2	8
Weak girls	13	8	62	10	77	4 (*n*=12)*	33
Boys	23	19	83	21 (*n*=22)*	95	2	9
Strong Boys	20	18	90	19 (*n*=19)*	100	-	-
Weak Boys	3	1	33	2	67	2	67

*= One person did not answer the question

In *wave I* when asked if the adolescents felt they needed to diet, the results mirrored the results of how adolescents perceived their body size. The majority of adolescents with strong SOC scores, with distribution of 19 boys (95%) and 21 girls (88%), felt they had no need to diet, as they believed their body size to be fine. In comparison, only 60 per cent of adolescents with weak SOC scores felt they had no need to diet, with distribution of one boy and eight girls. One girl with a weak SOC score did not answer the question and later when checking the data it was found that this girl suffered from an eating disorder. Only two adolescents (5%) with strong SOC scores, both girls, stated that they were not on a diet but they felt they should be. In comparison more than one third of adolescents with weak SOC scores felt they should be on a diet, with distribution of two boys and four girls.

Another difference found between adolescents with strong SOC scores and those with weak SOC scores was how they felt about their body image and if they worried about body image. The majority of adolescents with strong SOC scores felt content with their body image, with a distribution of 22 girls and all boys, in comparison to three quarters of adolescents with weak SOC scores, with a distribution of 10 girls and two boys. Less than 10 per cent of adolescents, all girls, with strong SOC scores worried about body image. In comparison, almost two thirds of adolescents (63%) with weak SOC scores did worry about body image, with a distribution of nine girls and one boy.

4.3.3 Possession of external and internal resources

Data concerning resources were gathered through the GRR scale and open-ended questions. Data derived from the GRR scale constructed for this study showed that almost all adolescents identified resources in their everyday life. The total mean score of GRR scale was in *wave I* 60.2 (*SD* 5.2, n=60), range 13-65. An independent samples t-test was conducted between the girls' (M=60.2, SD=4.9) and the boys' (M=60.1, SD=5.8) GRR mean scores with conditions $t(58)=0.02$, $p=0.98$, which indicated that there was no statistically significant difference in mean scores between genders. In *wave II* the total mean score of GRR scale was 58.2 (*SD* 7.1, n=60), range 13-65. An independent samples t-test was conducted between the girls' (M=58.2, SD=4.9) and the boys' (M=58.2, SD=9.5) GRR mean scores with conditions $t(58)=-0.01$, $p=0.99$, which indicated that there was no statistical significant difference in mean scores between genders. A table showing mean scores and standard deviations for the individual statements of the GRR scale, in *waves I and II,* can be found in appendix 17.

A one-way between subjects ANOVA was conducted to compare the differences in mean scores of total GRRs between the following groups: girls with strong SOC scores, girls with weak SOC scores, boys with strong SOC scores and boys with weak SOC scores. In *wave I* there was a statistically significant difference between groups as determined by one-way ANOVA ($F(3,56)=13.80$, $p=.000$). Post hoc comparisons using the Tukey HSD test indicated that there were no significant differences between the mean scores for girls with strong SOC scores (M=62, SD=2.8) and the mean scores for boys with strong SOC scores (M=61.9, SD=2.7, $p=.99$). However, there were was significant differences between the mean scores of girls with weak SOC scores (M=56.8, SD=6.3, $p=.002$) and the mean scores of boys with weak SOC scores (M=48.7, SD=8.5, $p=.000$). In *wave II* there were no statistically significant differences between group means as determined by one-way ANOVA ($F(3,56)=1.713$, $p=.18$).

Content analysis of open-ended questions pertaining to resources showed that being in possession of, and having access to, external and/or internal resources were seen as contributing to physical, mental and social wellbeing. External resources were perceived by both adolescents and parents as either material resources that met basic needs such as shelter, food, clothing and financial security, or participatory resources such as hobbies, education, or employment. Internal resources were identified as inherent personal qualities such as openness, being an extrovert, self-esteem or as acquired characteristics such as trust, a positive outlook on life and maintaining a balanced life.

The data revealed that the majority of parents perceived having financial resources as a main factor contributing to wellbeing. Employment was perceived as an external resource by providing an income and as an internal resource by providing a sense of meaningfulness to life. Several parents who experienced either unemployment or uncertain and stressful situations at work showed a decrease in SOC scores between *waves I* and *III*. Adolescents of these parents stated that they worried about their parents' employment situation as well as about the financial situation of their family.

For parents a positive and safe home environment, and living in a 'good community' was important for wellbeing. Parents said that enforcing family rules and establishing routines created a positive and safe home environment for adolescents. The most common rules in the family concerned specific times for coming home in the evening, bed times and participating in chores. The majority of adolescents stated that they had rules concerning when they had to be home by and bed times. Other rules involved being polite, not swearing, avoiding alcohol and drugs, not breaking the law, not bullying others, keeping safe by using for example cycle

helmets, exercise, personal hygiene, computer use, going to school and doing homework. The data revealed that only parents with strong SOC scores emphasized the positive aspects of having boundaries for adolescents. According to these parents boundaries gave adolescents a feeling of security, and made them feel loved and cared for. Both adolescents and parents with strong SOC scores felt that most rules were flexible and negotiable. Only adolescents with weak SOC scores complained about having too many or too strict family rules. Parents with weak SOC scores emphasized the importance of having strict rules. One father with a weak SOC score stated that it was getting harder to 'control' adolescents the older they got.

The majority of parents and adolescents saw hobbies as an important resource contributing to wellbeing. Participation in hobbies was perceived as a means to improve physical wellbeing, cultivate social relationships and to act as a method of relaxation and a way to manage stress. Despite hobbies being primarily seen as a resource they were also perceived by some as a burden on family life. Too much time spent participating in hobbies generated stress both for adolescents and parents. Parents with strong SOC scores mentioned external and internal resources as reciprocal. Girls mentioned internal resources more often than boys. There was, however, no noticeable difference in the content of answers between gender and being in possession of strong or weak SOC scores. The parents' answers mirrored the answers of the adolescents.

4.3.3.1 Adolescent SOC and resources

In *wave I* the majority of adolescents (90%; 54; *n*=60) claimed to have both external and internal resources available to them that they believed had a positive effect on wellbeing. Several resources described by adolescents were provided by parents or found in the family context, mentioning resources such as: *'Living in a nice house, having food and water every day, clothes (S girl 16)'*. Several adolescents described experiencing a sense of security as a resource and mentioned: *'No one abuses you at home (S girl 84)'* and *'Safe life (S boy 74)'* and *'That you are not afraid of the future (W boy 51)'* and *'I am treated well (S boy 95)'*.

In *wave I* external resources outside the family context mentioned by the adolescents were related to school and spare time activities: *'Going to a nice school (S girl 12)'* and *'having nice hobbies (W boy 62)'*. In *wave III* internal resources were mentioned more frequently, especially among adolescents with strong SOC scores. Adolescents mentioned subjective emotions such as: *'I feel content with myself and have a purpose in life (S girl 8)'* and *'That*

you like what you do in life (S boy 3) and *'Having good self-esteem (W girl 19)'*and *'That you are happy (W boy 63)'* and *'being stress free (S boy 44)'*.

The majority of adolescents had good self-esteem. The total mean score of the RSES scale was in *wave II* 21.8 (*SD* 3.9, *n*=57). An independent samples t-test was conducted between the girls' (*M*=22.1, *SD*=4.2) and the boys' (*M*=21.2, *SD*=3.4) RSES mean scores with conditions $t(55)=0.88$, $p=0.33$, which indicated that there was no statistical significant difference in mean scores between genders. In *wave III* the total mean score of RSES scale was 18.9 (*SD* 3.9, *n*=45). An independent samples t-test was conducted between the girls' (*M*=17.3, *SD*=3.6) and the boys' (*M*=21.6, *SD*=2.9) RSES mean scores with conditions $t(43)=-4.16$, $p=0.000$, which indicated that there was a significant difference in mean scores between genders.

In *wave III* three quarters of adolescents (76%; 35; *n*=46) were found to have strong self-esteem. Two girls with weak SOC scores did not complete the self-esteem scale. The majority of adolescents with strong SOC scores (86%; 19; *n*=22) had strong self-esteem (Table 4.22), with a distribution of eight girls (80%; *n*=10) and 11 boys (92%; *n*=12). In comparison two thirds of adolescents with weak SOC scores (67%; 16; *n*=24) had strong self-esteem, 11 girls (61%; *n*=18) and five boys (83%; *n*=6).

Table 4.22: Sense of Coherence and self-esteem

	Strong Girl	**Weak Girl**	**Strong Boy**	**Weak Boy**
Strong SE	8 (80%; *n*=10)	11 (61%; *n*=18)*	11 (92%; *n*=12)	5 (83%; *n*=6)
Weak SE	2 (20%; *n*=10)	7 (39%; *n*=18)*	1 (8%; *n*=12)	1 (17%; *n*=6)

*= Two girls with weak SOC scores did not complete the self-esteem scale

A one-way between subjects ANOVA was conducted to compare the differences in mean scores of the RSES scale between the following groups: girls with strong SOC scores, girls with weak SOC scores, boys with strong SOC scores and boys with weak SOC scores. In *wave II* there were no statistically significant differences between group means as determined by one-way ANOVA ($F(3,53)=.727$, $p=.54$). In wave III there was a statistically significant difference between group means as determined by one-way ANOVA ($F(3,41)=8.61$, $p=.000$). Post hoc comparisons using the Tukey HSD test indicated that the mean score for boys with strong SOC scores (M=22.5, SD=1.9) was statistically significantly different to the mean scores for girls with strong SOC scores (M=17.7, SD=3.7, $p=.001$) and to the mean scores of girls with weak SOC scores (M=16.6, SD=3.5, $p=.000$). However, it was not statistically significantly different to the mean scores of boys with weak SOC scores (M=19, SD=3.4, $p=.16$).

In *wave I* there was a strong positive correlation between adolescents' SOC scores and feeling content with one's life (r =.53, *n*=60, p<.01), especially in girls (r =.56, *n*=37, p<.01), and for girls with strong SOC scores (r =.45, *n*=24, p<.05). In *wave I* almost all adolescents (97%; 58; *n*=60) said they felt content or very content with life. Only two girls, both with weak SOC scores, stated they were not content with their life at the moment. In *wave III* only 65 per cent adolescents (31; *n*=48) claimed to be content or very content with life and when asked to define what they perceive as good about their life adolescents gave examples such as: *'I feel comfortable with myself, I have good friends and school is going well (W girl 23)'* and *'Friends, It's good at home despite my parents divorce (S girl 34)'* and '*I feel well and have a good life (S boy 94)' and 'Friends, football and school (W boy 79)'.* When asked what they perceived bad about their life at the moment adolescents with strong SOC scores gave examples of quite minor issues affecting their lives such as: *'Some stress at school, otherwise everything is OK (S girl 7)'* while adolescents with weak SOC scores gave examples of issues that were out of their control, yet had a big impact on their life: *'Fighting anorexia (W girl 19)'* and *'A close friend died (W girl 45)'* and *'Father unemployed (W girl 71)'.*

In *wave I* more than half of the adolescents (33; *n*=60) said they experienced stress, with almost all adolescents with weak SOC scores (14; *n*=16) but less than half of adolescents with strong SOC scores (19; *n*=44) being stressed. There was a strong negative correlation for boys with strong SOC scores (r =-.49, *n*=20, p<.05) and experiencing stress. A quarter of all adolescents (14; *n*=60), nine girls and one boy with a strong SOC and three girls and one boy with a weak SOC score mentioned ***exams and school grades*** as the source of their stress. Other sources of stress mentioned were ***friendships***; *' I worry about losing my friends (S girl 23')* and ***time***; *'That I don't have enough time to do the things I should do (W girl 36)'* and ***the future;*** *'Not being able to get into a good secondary school and then not getting a good job (S girl 93)'* and ***body image;*** *'My weight, I know I shouldn't as I have a lot of muscles but I feel too fat, my friends say I'm skinny, but not too skinny (W girl 69)'* and finally ***issues that one has no control over;*** *'That something bad will happen (S girl 75)'* and *'Dirty old men (W girl 61)'.* In *wave III*, as in *wave I* the main source of stress of adolescents was ***school, grades or exams***. Other sources of stress mentioned were related to ***family;*** *'If something happens to my family (S girl 64)', 'The family's financial situation (W girl 36)'* and ***friends;*** *'Do I actually have friends at school? (W girl 90)'* and ***the future;*** *'What will happen in life (S girl 81)', 'The future (W girl 45)'* and ***time;*** *'Having time for family and friends (S girl 27)'* and *'Having enough time to do everything (W girl 17)' and* ***body issues;*** *'I stress about my body image (S girl 7)', 'Puberty, my development (W boy 30)'.* The majority of adolescents (39: *n*=48) had several strategies for dealing with stress. Some of the

strategies that adolescents mentioned showed how they actively dealt with stress: *'I slow down and think if things are really that important or can I take it easier (S girl 8)'* and *'Go through what I have to do, calm myself down (S girl 12)'* and *'Try to do everything that has to be done as soon as possible (W girl 87)'* and *'I work at getting done what has to be done (W boy 79)'* and *'I take one day at a time. I accept the good and the bad (S boy 44)'* and *'I prioritize (W girl 23)'* and *'I talk about things that stress me (W girl 75)'* and *'I get enough sleep (girl 34)'*. Other adolescents mentioned strategies that showed how they avoided dealing with stress: *'I think about other things (S boy 43)'* and *'I do everything else then what gives me stress (W girl 90)'*.

4.3.4 Family processes

Family processes are described as on-going interactions, practices and functions between family members and may include the dynamic of relationships, communication patterns, time spent together, as well as satisfaction with family life (Denham, 1995; 2005; Day, 2010). Several adolescents and parents specifically stressed the importance of intergenerational communication on wellbeing. Many adolescents described how they experienced some difficulties in communication with their parents, and expressed a desire to be able to talk about problems with their parents. Several adolescents claimed to have a trusting relationship with an adult outside the nuclear family with whom they felt they could talk to about important things in their lives. Adults that adolescents trusted included grandparents, aunts and uncles, godparents and sports coaches. The majority of parents and adolescents stressed the importance of having time for the family. Parents stated that time spent together provided opportunity for intergenerational dialogue, and promoted openness. They believed that openness helped to maintain agreements between adolescents and parents and foster trust. The issue of trust was important to parents, especially to parents in possession of strong SOC scores. Adolescents with strong SOC scores mentioned trust as being associated with an open atmosphere at home. However, adolescents with weak SOC scores mentioned a lack of trust as being present in family life. Adolescents and parents said that spending time together doing everyday activities was important for wellbeing. These activities included watching TV, cooking together, eating together, doing household chores or just being together at home in the evenings. Parents stated that reliable adults should present in adolescents everyday lives and that these adults were responsible as role models for establishing regular health promoting routines. Routines included participation in shared daily mealtimes, regular bed times, doing exercise and partaking in hobbies. The majority of adolescents and parents claimed to eat together at least one meal a day. Parents felt that

sitting down to meals with the family provided opportunity for discussion between parents and children. The main reason given for not eating together was hobbies that prevented a family member from participating in meal times. Several adolescents and parents shared hobbies or did sports together. It was not uncommon for the whole family to participate in the same hobby. Spending hobby related time together did not necessarily mean actively participating in the same hobby. Several parents supported their children's hobbies in other ways such as driving them to and from training sessions or watching their children participate in games.

Holiday traditions were important for both adolescents and parents. Several adolescents described holiday traditions in conjunction with being and doing things 'together as a family', even though the family constellation had changed through divorce and remarriage. Several adolescents in possession of strong SOC scores mentioned spending time with the extended family during Christmas holidays. Both adolescents and parents considered food related activities important, especially if related to holidays or special events. They mentioned for example painting Easter eggs, preparing and eating Christmas dinner together, and making special dishes for birthdays. Going on trips and spending time together during the holidays were deemed as important for wellbeing. Parents with strong SOC scores stated that vacation time together allowed the family time to leave stress behind and reconnect as family. The majority of adolescents and parents mentioned spending weekends and summer holidays together at 'the cottage'*. While the majority of parents only mentioned 'being at the cottage together', adolescents specifically mentioned typical cottage activities such as fishing, berry and mushroom picking as ways of spending family time together. The majority of the adolescents suggested that their own family life was good. Many mentioned 'feeling loved by parents', experiencing 'caring supportive relationships', 'good atmosphere', and 'communication' as positive aspects of family life. However, family life was not always perceived as good. Several adolescents and parents in possession of weak SOC scores stated that they felt alienated from their family, claiming that even though there were no major disputes between family members they nevertheless had a feeling of not being part of a 'real' family.

*= Owning or renting a cottage is a part of Finnish culture and considered often an important element in Finnish family life. Going to the cottage provides a physical and mental getaway from daily life and enables spending time with the family.

4.3.4.1 Adolescent SOC and family processes

The dynamics of relationships, communication patterns, time spent with family, everyday activities and satisfaction with family life are functions of family processes (Day, 2010). Overall no major differences were found between adolescents with strong SOC scores and adolescents with weak SOC scores regarding family functioning. Communication, with family (nuclear and extended) and with friends, was mentioned as being important for wellbeing. Communication was also mentioned as being a family activity: *'I love my family and we are close. We talk about things and just hang out (W girl 87)'.* Several adolescents with strong SOC scores mentioned communication as a resource: *'I can talk to everyone in my family (S boy 43)'* and *'I could talk to my aunt about my parents divorce (W girl 22)'* and *'It's important that you have good friends you can talk to (S girl 7)'.* Several adolescents with weak SOC scores stated that communication was sometimes problematic and not always easy: *'Dad has Asperger's syndrome, it's hard to talk to him. He takes care of us but he is not social (W girl 53)'.*

Families spent time together doing everyday activities, having shared mealtimes, shared hobbies, joining in family traditions, going on trips together and spending holidays together. A difference was found between participation in family mealtimes during the week and the weekend. In *wave I* almost all adolescents (59; *n*=60) claimed to share a family meal at weekends with the exception of one girl with a weak SOC score. During the week, however, only about three quarters of the adolescents (72%; 43 *n*=60) sat down to a meal with their family, 24 girls and 19 boys. A difference was found between adolescents with strong SOC scores and adolescents with weak SOC scores, as 23 per cent of adolescents (10; *n*=44), with strong SOC scores did not eat together as a family compared to 38 per cent of adolescents (6; *n*=16), with weak SOC scores. In *wave III* almost two thirds of adolescents (31; *n*=48) claimed to eat a meal together with their family almost every day, six girls and ten boys with strong SOC scores and 12 girls and three boys with weak SOC scores.

In order to gain insight into the context in which mealtimes took place, adolescents were in *wave III* asked to elaborate on the family mealtime situation. Adolescents with strong SOC scores mentioned a more structured context of having set mealtimes, sitting together at the dining table and participating in more meals per week than adolescents with weak SOC scores. In *wave III* adolescents cited topics related to food and mealtimes when spending time together as a family and mentioned: *'We have festive dinners during the holidays (S boy 56)'* and *'We have a Skandian* (Skånsk) *smörgåsbord feast (W girl 45)'* and *'We have crayfish parties (S girl 92)'* and *'We cook together (S boy 94)'* and *'We sometimes go out for meals together (W boy 88)'.*

In *wave I* almost all adolescents (97%; 58; *n*=60) perceived the general atmosphere at home to be very good or good. Two thirds of adolescents with strong SOC scores (29; *n*=44) perceived their home atmosphere as very good, as opposed to only a quarter of adolescents with weak SOC scores (4; *n*=16). In *wave III* the majority of all adolescents (85%; 41; *n*=48) perceived the general atmosphere at home to be very good or good. When asked to define what they perceived as good or bad about their family adolescents mentioned ***as good***: *'Good atmosphere, I like my family, I can talk to everyone (S boy 43)'* and *'I love my family, Everyone has a place in it, Fun to be with (S girl 64)'* and *'I have a family that loves and supports me even though we are quite different (W girl 19)'* and ***as bad***: *'Sometimes it feels like we talk too little (S girl 7)'* and *'Sometimes I fight with my mother and brother (S girl 12)'* and *'It's bad that the family isn't whole anymore and then there can be fights sometimes (W girl 39)'*. Sometimes certain parental values were seen as good even when they manifested themselves in actions that were perceived as bad, such as: *'Our parents trust us, but they don't let us do things that others are allowed to do (S girl 93)'* and *'My mother cares, but she interferes too much (S boy 94)'*.

As the adolescents' SOC scores were measured in all three waves to examine changes in SOC scores over these years, the adolescents were asked in *wave III* if any big changes had taken place in the family during the last three years as this could facilitate in understanding, if found, any major changes in the levels of SOC. Almost half of adolescents (21; *n*=48) stated that there had been changes in the family mentioning issues related to ***health/ illness or death***: *'A few close relatives have died, but we've got over it together (S girl 69)'* and *'My grandmother got cancer, I got Anorexia (W girl 19)'* and *'My Dad died and Mum has had a tumour (W girl 25)'* and issues related to ***changes in family relationships***: *'My Dad remarried and I've got a little sister (S girl 7)', 'Divorce (S girl 34 and W girl 22)', ' My Mum has a new boyfriend (W boy 63)'* as well as changes related to ***parents employment status***: *'My Dad has been unemployed twice (W girl 71)', ' My Dad works now in another city and is gone during the weeks (W girl 83)'*.

4.3.5 Summary and interpretation of wellbeing and Sense of Coherence findings

The findings generated from open-ended questions offered information on individual and family aspects, as well as daily practices found in the family context that adolescents and parents believed to have an influence on their positive wellbeing. The four major categories that adolescents and parents identified were 'connectedness', 'health', 'possession of external and internal resources' and 'family processes'. Interpretation of the findings showed that close, caring and supportive relationships with friends and family were deemed important for wellbeing. Experiencing a sense of connectedness and caretaking from the immediate social environment was found to be the most significant contributor towards adolescent wellbeing. More adolescents with strong SOC scores, both girls and boys, than adolescents with weak SOC scores claimed connectedness was important for wellbeing. A strong positive correlation was found between adolescents' SOC and feeling strongly connected to the family, especially for boys with strong SOC scores. Relationships with peers were important to adolescents and the majority of adolescents had several friends. Worrying about peer relationships was exclusive to girls. The importance of connectedness for wellbeing, and its influence on SOC can be seen in this study. Girls had a greater decline in SOC scores than boys throughout the study. Girls questioned their relationships more with family and friends and worried about relationships more than boys. A similar interpretation can be made with how adolescents felt connected to school. In *wave I* a strong positive correlation was found between adolescents' SOC scores and feeling strongly connected to school, especially for girls with strong SOC scores. During *waves II* and *III* there was a decrease in feeling strongly connected to school that matched the decrease in adolescents SOC mean scores. Feeling strongly connected to school decreased simultaneously as worrying about school related issues increased.

Being in possession of good health was perceived by both adolescents and parents as important for wellbeing. Parents were perceived by adolescents, as contributing to good health in the physical, mental and social dimensions by providing access to healthy foods, by supporting them emotionally and organizing social events. Almost all adolescents perceived themselves as having good health despite a quarter of them having an illness diagnosed by a doctor. Having a strong SOC score seemed to be indicative of better health in adolescents than having a weak SOC score. Adolescents with strong SOC scores worried less about health related issues and claimed to try to lead a healthy lifestyle more than adolescents with weak SOC scores. Two thirds of adolescents with weak SOC scores worried about their body image and one third felt they should be on a diet. In comparison less than 10 per cent of adolescents with strong SOC scores worried about body image and only five per cent felt they should be on a diet.

The findings showed that the majority of adolescents believed that they had resources at their disposal that had a positive effect on wellbeing. In *wave I* most of these resources were indicated by the respondents as being external and provided by parents or found in the family context. External resources were perceived as material resources or participatory resources. In *wave III* adolescents reflected more on the importance of internal resources. Internal resources were identified as inherent personal qualities, experiencing trust and having a positive outlook on life. Girls mentioned internal resources more often than boys. The findings showed that adolescents with a strong SOC had more internal resources at their disposal than adolescents with weak SOC scores. A strong positive correlation was found between adolescent SOC and feeling content with life. This was especially noticeable in girls with strong SOC scores. Adolescents with strong SOC scores were more often associated with having high self-esteem and less often associated with experiencing stress. There was a strong negative correlation between boys with strong SOC and experiencing stress. Parents with strong SOC scores saw resources as being reciprocal.

The majority of adolescents and parents experienced a good family life. Both adolescents and parents described a variety of everyday intra-familial interactions and practices, they believed important for their wellbeing, taking place in the setting of everyday family life. Time spent with together with the family, family communications, everyday family activities, family traditions and satisfaction with family relationships were topics mentioned by both strong and weak SOC scoring adolescents and parents. There were no significant differences found between adolescents with strong or weak SOC scores in most of these topics. Issues pertaining to connectedness and communication were mentioned by both strong and weak SOC score adolescents throughout the study. Adolescents viewed well functioning intergenerational communication as important for their wellbeing. Routines such as shared mealtimes were perceived as providing opportunities for engaging in discussion, as well as serving as a forum for modelling health promoting behaviour. Family traditions were perceived by some adolescents as ways to uphold the experience of feeling part of an 'original nuclear family' despite the fact that the family constellation had changed. Adolescents with strong SOC scores expressed themselves more positively about experiences of family life than adolescents with weak SOC scores. It was more common for individuals with weak SOC scores to express feeling alienated from their family. The findings suggest that adolescents with strong SOC scores did better than adolescents with weak SOC scores in all areas identified as important for their wellbeing.

4.4 Sense of Coherence within the family context

This subsection presents the results from both qualitative and quantitative data. This meets the research objective of gaining insight into the development of adolescents' Sense of Coherence within a family context, and identifying factors that could be attributed to differences in strength of Sense of Coherence, especially factors relevant to the development of a strong Sense of Coherence.

The findings are presented in 18 family profiles. The family profiles are comprised of data generated from families that participated in all three waves of the study. The aim of the integration of data into family profiles was to produce conclusions described in more abstract terms brought together by responses to numerous questions. The integration of quantitative and qualitative data pulls together each individual family's 'threads of a story'. The profiles provide deeper understanding of factors found in the family context as well as family processes that could possibly be attributed to the development of adolescent Sense of Coherence, and to differences in strength of Sense of Coherence. Table 4.23 provides an overview of all individual family members' SOC scores and SOFC scores throughout *waves I* to *III*.

Table 4.23: Sense of Coherence scores for the 18 families

	Adolescent SOC		**Parental SOC**						**SOFC**	
Wave	W I	W III	W I			W III			W I	W III
Family			M	F	P	M	F	P		
7	S 76	S 75	S 77	S 83	S 80	S 74	S 76	S 75	S 79	S 75
12	S 78	S 74	S 76	-	S 76	S 78	S 75	S 77	S 77	S 76
17	S 78	W 41	W 63	W 35	W 49	S 67	W 55	W 61	W 56	W 54
19	S 65	W 29	W 61	S 67	W 64	W 66	-	W 66	W 64	W 48
23	S 68	W 61	S 80	S 77	S 79	S 86	S 77	S 82	S 75	S 75
27	S 68	W 55	W 63	W 64	W 64	-	W 57	W 57	W 65	W 56
37	W 61	W 61	S 72	W 66	S 69	S 67	-	S 67	W 66	W 64
43	S 90	S 74	S 68	S 84	S 76	S 73	S 82	S 78	S 81	S 76
44	S 77	S 75	S 70	W 64	S 68	W 66	-	W 64	S 71	S 70
45	W 59	W 64	S 79	S 68	S 74	S 83	-	S 83	S 69	S 74
53	S 72	W 58	W 63	W 58	W 60	W 52	W 63	W 58	W 64	W 58
64	W 64	S 65	S 80	S 76	S 78	S 68	-	S 68	S 73	S 67
71	W 56	W 45	W 63	S 70	S 67	-	W 60	W 60	W 63	W 53
83	S 81	W 60	-	S 88	S 88	S 71	S 85	S 78	S 85	S 72
92	S 81	S 78	S 87	-	S 87	S 88	-	S 88	S 84	S 83
93	S 67	S 70	S 82	S 74	S 78	S 82	-	S 82	S 74	S 76
94	S 81	S 84	S 70	-	S 70	S 83	-	S 83	S 76	S 84
96	W 50	W 55	S 82	S 71	S 77	S 78	-	S 71	S 68	S 67

M= Mother, F=Father, P=Parents

Each individual family profile commences by describing demographic data, individual SOC and SOFC scores, and changes in these scores between *waves I* and *III*. These findings aim to provide an account of the structure of both the individual and the collective Sense of Coherence in the family. After the data concerning SOC scores, findings derived from open-ended questions are presented. These findings provide insight into individual and contextual factors found in the family that the family believes to be associated with and important for health and wellbeing. After that findings are presented that aim to give insight into the subjectivity of family life, highlighting interrelated complexities (e.g. emotional ties, life satisfaction, stress) that exist in family relationships and processes and that may have an impact on the development of SOC. The profiles conclude with a figure illustrating the increase or decline in the strength of individual SOC in family members and the collective SOC found in the family. The chapter ends with a summary and interpretation of the data presented in the family profiles.

4.4.1 Family profiles

4.4.1.1 Profile of Family 7

Girl 7 started with a strong SOC in a family with a strong SOFC and ended as a strong girl in strong family (Table 4.23). This family's respondents were Girl 7 and her divorced biological parents. In *wave I* Girl 7 lived on an alternating basis in two homes, one week with her remarried mother and her husband, and one week with her father. She spoke Swedish in one home and Finnish in the other. In *wave III* she was still living in two homes on an alternating basis. Her father however had remarried and had a child with his new wife. Both parents were employed. All family members considered their health good or very good.

Table 4.24: Family 7

	Participant A		**Participant B**		**Participant C**	
Family relation	Daughter		Mother		Father	
Year of birth	1995		1965		1966	
Language	Swedish		Finnish		Swedish	
Wave	W I	W III	W I	W III	W I	W III
Self perceived health	Good	Very good	Very good	Good	-	Very good
Illness	No	No	No	No	No	No
SOC	S 76	S 75	S 77	S 74	S 83	S 76
SOFC	**Wave I: S 79**		**Wave III: S 75**			

The factors that Family 7 stated to be essential for wellbeing were: *'having good health', 'close happy family relationships', 'several good friends', 'satisfying work'* and *'a stable financial situation'.* When asked in *wave* III what was important specifically for adolescent wellbeing Girl 7 stated that having an *'easy and natural communication with parents'* as the most important. However, both she and her father felt that they sometimes lacked someone to speak with about important matters. Mother 7 stated that *'boundaries and love'* were the most important factors influencing adolescent wellbeing, claiming that *'Boundaries bring a sense of security and love gives you the feeling of being important and cared for'.* Father 7 stated that *'good relationships within the family and having good friends'* are crucial to wellbeing.

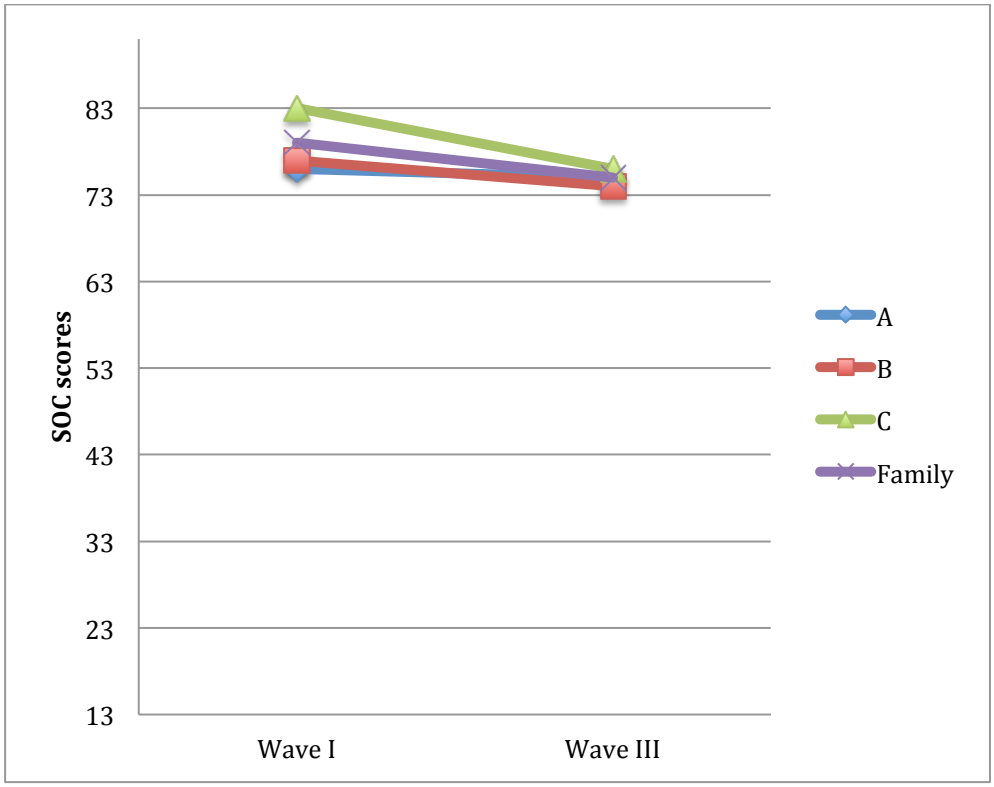
All members of Family 7 claimed to be content with life. Both parents stated that they only occasionally felt stressed and then it usually was work related issues. To combat stress Mother 7 cut down on work related travel, tried to get more sleep and exercise while Father

7 made sure that he increased the amount of exercise he did. Girl 7 said that she sometimes worried about *'things that teenagers worry about such as schoolwork, demands on looks and body image' and 'plans for the future'*. When she was stressed she spent time by herself and took it easy, doing nothing special.

In *wave III* Girl 7 felt she had parents who loved her but she was not content with the relationship she had with them. She felt that she and her parents talked too little, especially about her own problems. The lack of communication between family members was echoed by her father, however not by her mother who claimed that the family communicated well and could speak openly about problems in the family. It remained however unclear which family the mother meant, the original nuclear family or the present remarried family.

There was a slight decline in all the family members' individual SOC scores between *waves I* and *III* (Figure 4.1). There was also a decline in the SOFC score.

Figure 4.1: Sense of Coherence: Individual and Family, in Family 7



4.4.1.2 Profile of Family 12

Girl 12 started with a strong SOC in a family with strong SOFC and ended as a strong girl in strong family (Table 4.24). This family's respondents were Girl 12 and her biological parents. In *wave I* only the mother answered, in *wave III* however both parents answered. Girl 12 was the middle child of three and lived with her married parents and two siblings. Both parents were employed. All family members considered their health to be very good despite Girl 12 being diagnosed with allergies and psoriasis and parents with asthma and allergies.

Table 4.25: Family 12.

	Participant A		**Participant B**		**Participant C**	
Family relation	Daughter		Mother		Father	
Year of birth	1995		1965		1966	
Language	Swedish		Swedish		Swedish	
Wave	W I	W III	W I	W III	W I	W III
Self perceived health	Very good	Very good	Very good	-		Very good
Illness	Yes	Yes	Yes	No		Yes
SOC	S 78	S 74	S 76	S 78		S 75
SOFC	**Wave I: S 77**		**Wave III: S 76**			

The factors that Family 12 stated to be essential for positive wellbeing were: *'having good health', 'feeling loved', 'having someone to talk to', 'a balanced family life', 'good friends', 'going to a nice school', 'having enough time'* and *'a stable financial situation'*. When asked in *wave* III what was important specifically for adolescent wellbeing, Girl 12 stated that it was important to have *'time for friends and family',* also *'having others around you that felt well and made you be in a better mood'*. Both parents said that *'time for family'* was very important. Mother 12 recommended taking time off from work and staying at home when the children are young in order to build a stabile and secure foundation for a good relationship with your children. Father 12 stated that parents should have a lot of time to spend doing things with their children. He also stated that the family's home environment should be positive and encouraging and that the whole family should be close and supportive of each other.

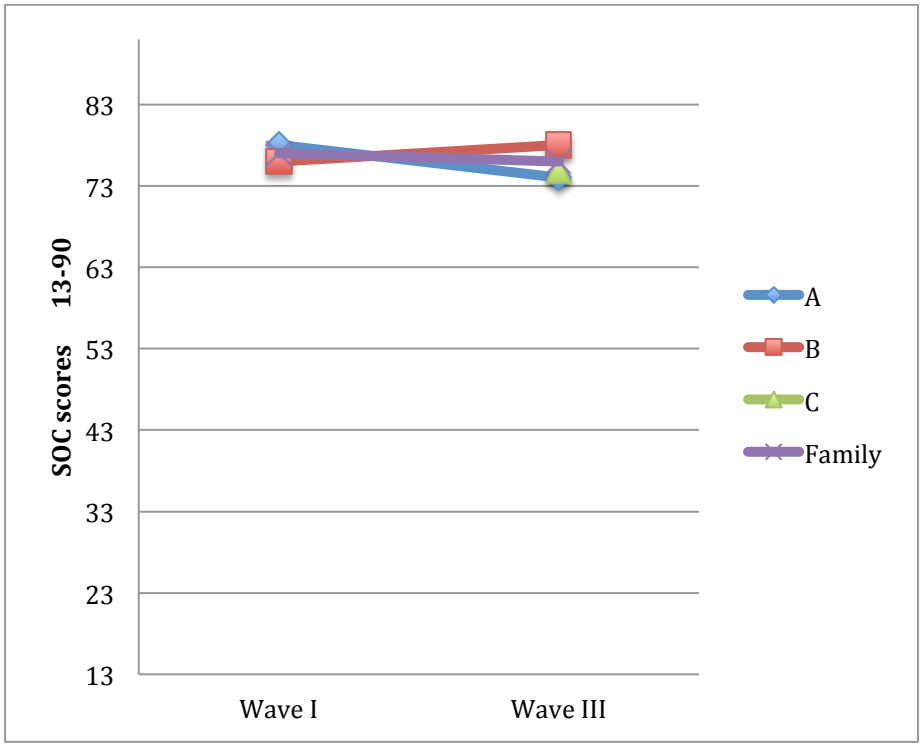
All members of Family 12 claimed to be content with life. Both parents said they felt stressed occasionally. Mother 12 worried about *'not being available for the children'* as much as before now that she was returning to work after a long time as a full time mother,

she would combat stress by getting enough sleep and talking long walks with her husband. Father 12 worried about *'lack of time, his health and that the house wasn't tidy enough'*. His way of combating stress was to spend more time with family, to exercise and try to enjoy the work trips he had to make. He wished that he would have more time to exercise as exercising made him feel good. Girl 12 said she felt stressed sometimes, however she did not define what stressed her. When she felt stressed she would calm herself down by mentally going over the things she had to do.

In *wave III* Girl 12 said she was very content with her family life. She felt loved, cared for, had fun with and was able to talk to her family about any problems. This was echoed by her father but not by her mother who stated that even though she felt loved by her family she sometimes felt neglected and did not always have fun with the family.

There was a slight decline in the daughter's SOC score and a slight increase in the mother's SOC score between *waves I* and *III* (Figure 4.2). The SOFC score remained virtually the same.

Figure 4.2: Sense of Coherence: Individual and Family, in Family 12



4.4.1.3 Profile of Family 17

Girl 17 started with a strong SOC in a family with a weak SOFC and ended as a weak girl in weak family (Table 4.25). This family's respondents were Girl 17 and her divorced parents. Neither of the parents were remarried or lived with a new partner. Girl 17 lived on an alternating basis in two homes with her father and mother. She spoke Swedish in one home and Finnish in the other. She was an only child and adopted. Both parents were employed. Girl 17 considered her health to be good. Both her parents considered their health as not so good and they said they were diagnosed with diabetes, hypertension and sleep apnoea.

Table 4.26: Family 17

	Participant A		**Participant B**		**Participant C**	
Family relation	Daughter		Mother		Father	
Year of birth	1995		1961		1959	
Language	Swedish		Finnish		Swedish	
Wave	W I	W III	W I	W III	W I	W III
Self perceived health	Good	Good	Not so good	Not so good	Not so good	-
Illness	No	No	Yes	Yes	Yes	Yes
SOC	S 78	W 41	W 63	S 67	W 35	W 55
SOFC	**Wave I: W 56**		**Wave III: W 54**			

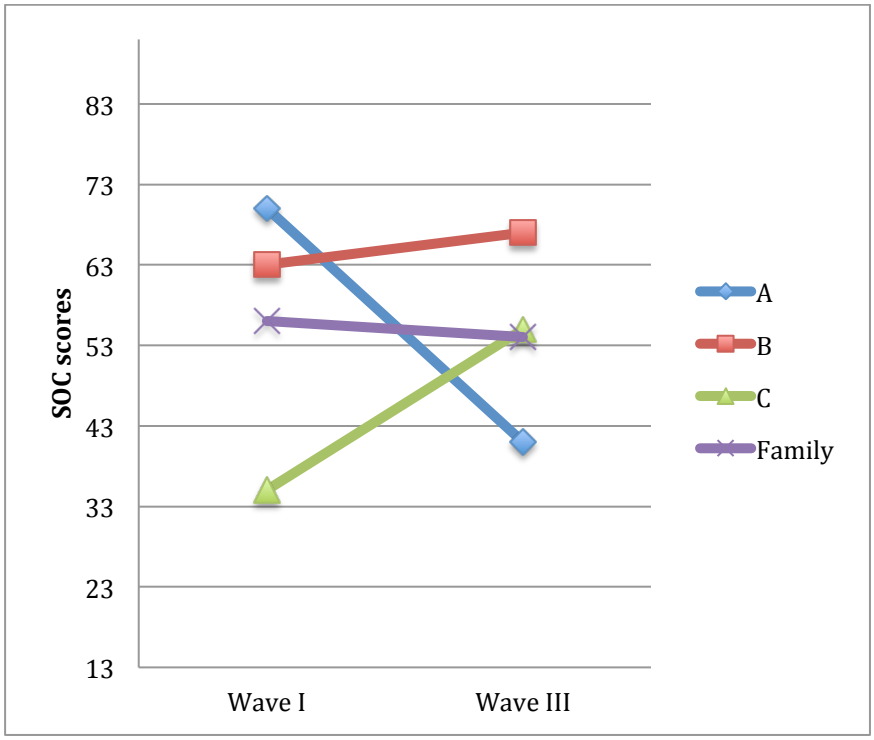
The factors that Family 17 stated to be essential for positive wellbeing were: *'having good caring friends', 'being able to do what you want within reason', 'having external resources such as a house, family, food and clothes', 'to be content with oneself and have peace of mind', 'to have enough money not to worry',* and *'having people around you that feel close to'*. Father 17 gave in *wave I* no answer to what he thought contributed to wellbeing. He stated he was not content with life and stressed with worries about finances and a lack of vision for his personal future. However, in *wave III* he mentioned *'being able to enjoy life, not having to be rich but have a stable economy and being independent'* as factors essential for wellbeing. When asked in *wave* III what was important specifically for adolescent wellbeing, Girl 17 stated that it is important to *'have many good friends', 'family'* and she also mentioned *'financial stability'*. Mother 17 stated that *'a safe home environment with boundaries that are 'not too tight' is important',* while Father 17 stressed the importance of *'dialogue, listening to your child and allowing room for expressing emotions'*.

Both parents occasionally felt stressed but the issues that stressed them were *'global economy, the deconstruction of the welfare society, and the increase of racism',* not personal

issues. Father 17 said he combated stress by trying to understand what stressed him. Mother 17 claimed that reading and painting were her strategies to combat stress. Girl 17 said she stressed about *'fitting in', 'relationships with boys'* and occasionally about *'school'*. Her way of combating stress was to go on the computer. Girl 17 said she was content with her family life. She felt cared for, and that she was able to talk to her family about any problems. She did nonetheless state that she sometimes wished that her parents could be more affectionate. She described her mother as '*kind and perfect'*. However, she felt that sometimes her father didn't really understand her even though *'he does his best'*. Mother 17 said she was very content with family life. Father 17 claimed he was content with family life, however he claimed to feel distanced from the family and found it hard to talk about problems with them.

Of all the families, Family 17 underwent the largest changes in SOC scores between *waves I* and *III*. There was a considerable decline in the daughter's SOC and a slight increase in the mother's SOC (Figure 4.3). The SOFC score however remained virtually the same due to a major increase in the father's SOC score.

Figure 4.3: Sense of Coherence: Individual and Family, in Family 17



4.4.1.4 Profile of Family 19

Girl 19 started with a strong SOC in a family with a weak SOFC and ended as a weak girl in weak family (Table 4.26). This family's respondents were Girl 19 and her biological parents. Both parents answered the questionnaire in *wave I*, in *wave III* only the mother did. Girl 19 was the middle child of three and lived with her married parents and two siblings. Both parents were employed. In *wave I* all family members considered their health as good or very good despite Girl 19 being diagnosed with celiac disease and her mother with asthma, hypertension and high cholesterol. In *wave III* Girl 19 claimed her health was bad and disclosed that she was suffering from an eating disorder.

Table 4.27: Family 19

	Participant A		**Participant B**		**Participant C**	
Family relation	Daughter		Mother		Father	
Year of birth	1995		1965		1966	
Language	Swedish		Finnish		Swedish	
Wave	W I	W III	W I	W III	W I	W III
Self perceived health	Good	Bad	Good	-	Very good	
Illness	No	Yes	Yes	Yes	No	
SOC	S 65	W 29	W 61	W 66	S 67	
SOFC	**Wave I: W 64**		**Wave III: W 48**			

Family 19 stated that factors to be essential for positive wellbeing were: *'good family relationships', 'having friends', 'feeling content with oneself', 'feeling confident', 'having good health', 'having the possibility to do things one perceives as fun and meaningful'* and *'having financial security'*. When asked in *wave* III what was important specifically for adolescent wellbeing the whole Family 19 left the question unanswered. When asked in *wave I* if she had an eating disorder Girl 19 said 'no' and when asked if she thought there is a risk she could develop an eating disorder she answered 'maybe.' Both parents claimed not to be worried about their daughter developing an eating disorder and said they believed protective factors are *'her good self-esteem', 'sound values' and 'warm family relationships'*. Girl 19 developed an eating disorder between *waves I* and *wave II*. She claimed, in *wave III,* that she was physically recovering from anorexia but not mentally and that she worried about her looks and body image.

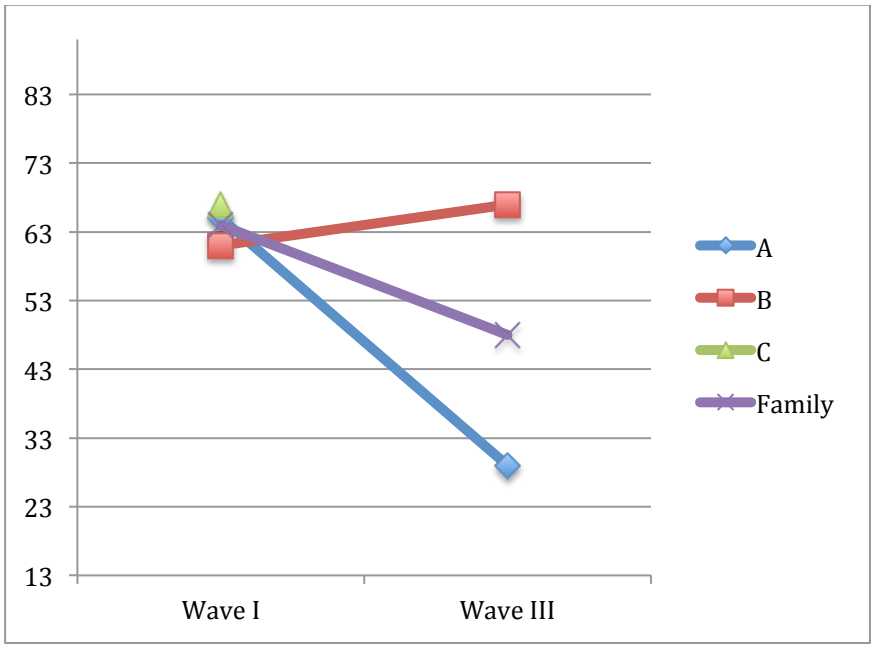
In *wave I* the family claimed to be content with life and both parents said they did not feel stressed. Girl 19 however claimed to have occasional moments of stress with *'school'* and she worried sometimes about *'her looks, her self-esteem, and her health (both physical and*

mental)'. In *wave III* Girl 19 stated she was stressed over her struggle with anorexia, schoolwork, and due to her anorexia being left out of the group of friends she had. She said she felt very lonely despite having several friends. She would combat stress by staying at home, taking it easy and watching films. Mother 19 said she worried about her daughter's illness as well as her own parent's health as her father was suffering from Alzheimer's disease. She combated stress through exercise and also having relaxing evenings watching a film and drinking a glass of wine.

Girl 19 claimed she was not content with life. Mother 19 said she felt content with life, claiming that family life was stable, her daughter was recovering from anorexia and they had financial security. Girl 19 said that she had a good relationship to her parents but that she found it difficult to talk to them about her problems. Girl 19 said she was not content with her family life. She said she felt cared for and supported by her parents, however she was not sure if she felt loved. She said she was not happy about her relationship with her parents and stated their relationship was not close and that she could not talk to them about her problems. Mother 19 stated they had a very good relationship despite not always being able to talk openly about problems.

There was a considerable decline in the daughter's SOC and a slight increase in the mother's SOC score between *waves I* and *III*. There was also a big decline in the SOFC score (Figure 4.4). Girl 19 had in *wave III* the lowest SOC score of adolescents throughout the study.

Figure 4.4: Sense of Coherence: Individual and Family, in Family 19



4.4.1.5 Profile of Family 23

Girl 23 started with a strong SOC in a family with a strong SOFC and ended as a weak girl in strong family (Table 4.27). This family's respondents were Girl 23 and her biological parents. Girl 23 was the older of two children. Both parents were employed. Girl 23 and her mother considered their health as good or very good. The father considered his health was not so good and he said he had been diagnosed with allergies and asthma.

Table 4.28: Family 23

	Participant A		**Participant B**		**Participant C**	
Family relation	Daughter		Mother		Father	
Year of birth	1995		1965		1966	
Language	Swedish		Swedish		Swedish	
Wave	W I	W III	W I	W III	W I	W III
Self perceived health	Good	Very good	Very good	-	Not so good	-
Illness	No	No	Yes	No	Yes	Yes
SOC	S 68	W 61	S 80	S 86	S 77	S 77
SOFC	**Wave I: S 75**		**Wave III: S 75**			

The factors that Family 23 stated to be essential for positive wellbeing were; *'having friends', 'that you and those around you are healthy and well', 'that you are content with your life', 'that your everyday living is meaningful', 'that you have a close relationship to those people who are important to you',* and *'that the ups and downs in life are balanced'.* When asked in *wave* III what was important specifically for adolescent wellbeing Girl 23 said being *'close to friends',* and that there should be *'a good workload balance in school with less exams and projects due at the same time'.* Mother 23 stated that *'a presence of reliable adults, having friends that could be trusted, and feeling that there was a meaning to life and the things they do'* as the most important factors influencing adolescent wellbeing. Father 23 stated that having *'time to be with the family'* was important.

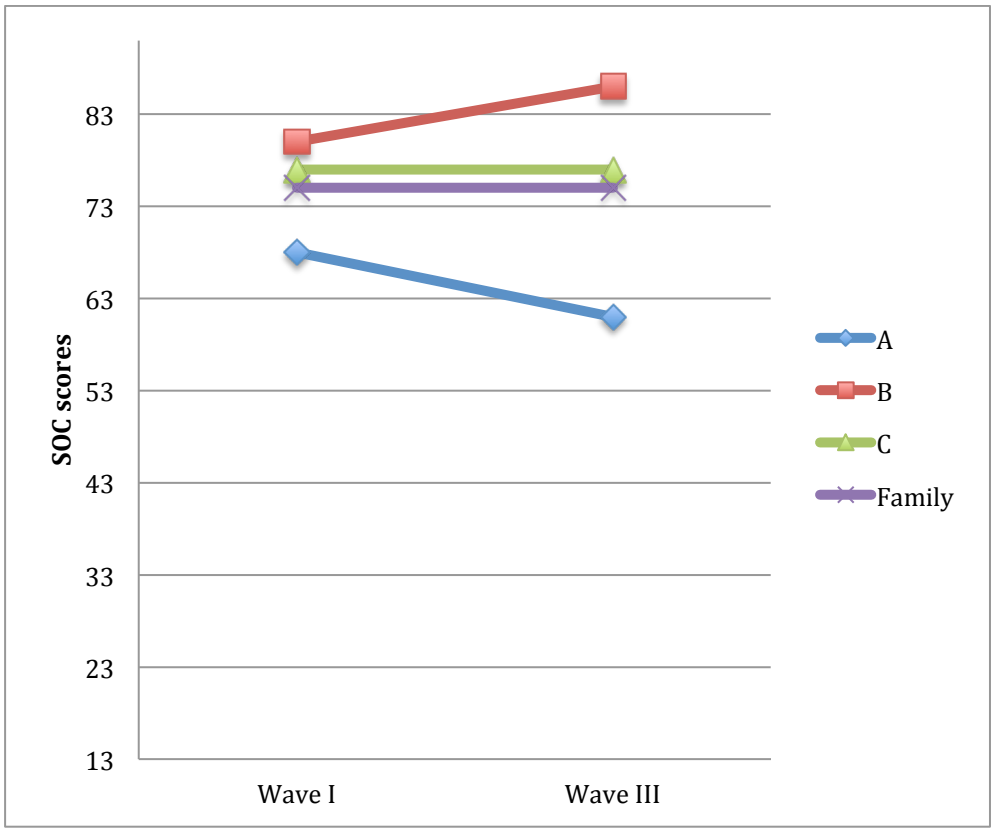
All members of family 23 stated that they were content with life. Both parents stated that they only occasionally felt stressed. Father 23 said that stress was usually related to work and he combated that by exercising. Mother 23 worried about her *'children's future, about time management issues with balancing work and free time'* saying she should sometimes take more care of herself and less of others. She also worried about her *'relationship with her husband'* as he worked every second week away from home and she found that they had too little time to just be together without 'planned activities'. To combat stress she had learnt to

'draw a line over planned activities' in her calendar in order to free up some time and use the 'extra' time to go jogging. She said she spent a lot of time in nature, both alone and with her family, she took time to read a book or the newspaper and she made time to *'talk and laugh'* with the family. Girl 23 said that she worried about *'exams and friends'*. When she was stressed she said that she exercised, tried to relax and prioritize *'the important things'*.

Girl 23 stated that she felt loved and had a close relationship with her family but felt that she could not always talk to her parents about problems. Both parents said they felt the family was very close and in contrast to Girl 23 they said that they talked openly about problems.

There was a decline in the daughter's SOC score, a rise in the mother's SOC score between *waves I* and *III* (Figure 4.5). Both the father's SOC score and the SOFC score remained exactly the same.

Figure 4.5: Sense of Coherence: Individual and Family, in Family 23



4.4.1.6 Profile of Family 27

Girl 27 started with a strong SOC in a family with a weak SOFC and ended as a weak girl in weak family (Table 4.28). This family's respondents were Girl 27 and her divorced biological parents. Both parents answered the questionnaire in *wave I*, in *wave III* only the father did. Girl 27 lived on an alternating basis in two homes, one week with her mother and one week with her father. She spoke Swedish in one home and Finnish in the other. She was the younger of two siblings. Both parents were employed. Girl 27 and her father considered their health to be very good, her mother considered her health as not so good and she said she had been diagnosed with depression.

Table 4.29: Family 27

	Participant A		**Participant B**		**Participant C**	
Family relation	Daughter		Mother		Father	
Year of birth	1995		1965		1966	
Language	Swedish		Finnish		Swedish	
Wave	W I	W III	W I	W III	W I	W III
Self perceived health	Very good	Good	Not so good		Very good	-
Illness	No	No	Yes		No	No
SOC	S 68	W 55	W 63		W 64	W 57
SOFC	**Wave I: W 65**		**Wave III: W 56**			

The factors that Family 27 stated to be essential for positive wellbeing were: *'having lots of friends', 'being with family (also the extended family)', 'feeling safe', 'having fun', 'being healthy', 'having both time and energy to enjoy life', 'being at peace with those closest to you'* and *'having hobbies'*. When asked in *wave* III what was important specifically for adolescent wellbeing Girl 27 stated that *'good family relations are important'* and she wished that she was better friends with her brother, and *'that you talk to each other'* and wished her parents understood her better. Father 27 stated that *'boundaries are important',* that *'children should be given clear signals on what rules are to be followed'* and that *'certain traditions are to be revered'*.

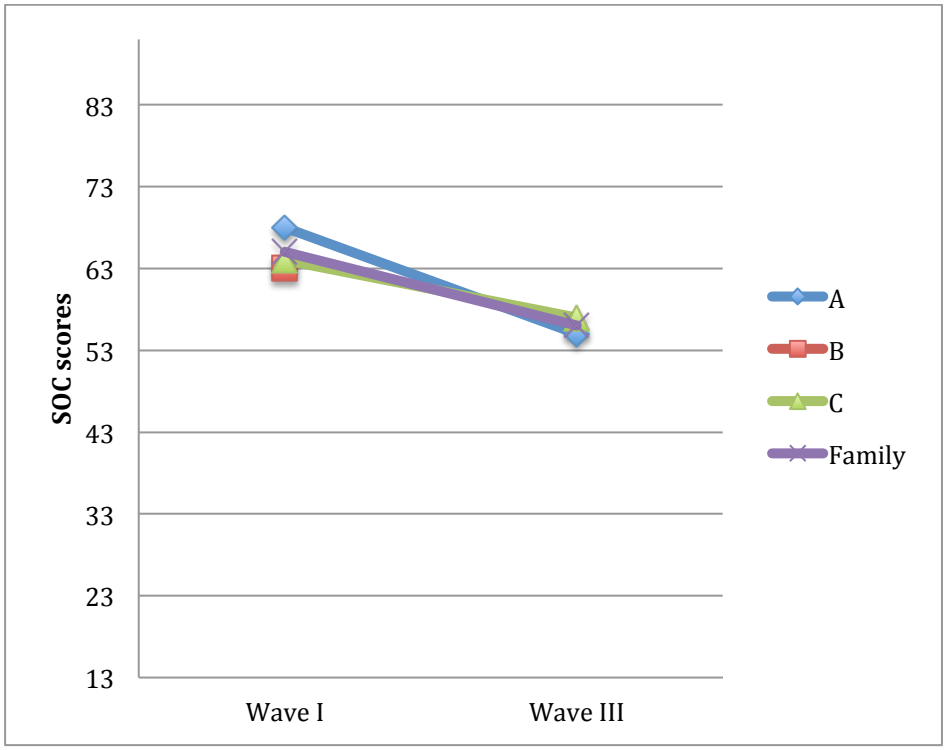
All members of Family 27 stated that they were content with life despite that Mother 27 was suffering from depression. Father 27 said he felt stressed and that the reasons for that were *'his own parents' health status' and 'his son dropping out of school'*. To combat stress Father 27 said he went for a massage, went ice swimming and took time off to exercise. Girl 27 said that she sometimes worries about *'school*' and *'balancing her time spent with friends*

and family'. When she is stressed she liked to sleep, watch TV and be with friends. She said that doing these things helps her not think about the things that she finds stresses her.

Girl 27 stated that her relationship with her parents was good, but not close. She said that they trusted her and that she got on well with them but felt she couldn't always talk to her parents about her problems and she said that she was sad about her relationship with her brother that she finds isn't as close as it used to be. Father 27 said that he was not content with life and one of the main reasons for this was how he experienced family life. He claimed that his relationship with his daughter was good but his relationship with his son (who had moved to live with his mother) was bad. He said that he felt that his relationship with his family was not close at all, that his family didn't care about him, that it was not fun to be with family and that he couldn't talk about problems with any family members. Father 27 drew attention to the challenges of blended families claiming that when parents get new partners family life becomes stressful as *'you feel you are always made to prioritize and someone may feel neglected which can lead to having a bad conscience'*.

There was a decline in the daughter's SOC score and the father's SOC score between *waves I* and *III* (Figure 4.6). There was also a decline in the SOFC score.

Figure 4.6: Sense of Coherence: Individual and Family, in Family 27



4.4.1.7 Profile of Family 37

Girl 37 started with a weak SOC in a family with a weak SOFC and ended as a weak girl in weak family (Table 4.29). This family's respondents were Girl 37 and her biological parents. In *wave I* both parents answered, however in *wave III* only the mother answered. Girl 37 was the older of two siblings. The mother was a fulltime mother and the father employed. All family members considered their health to be very good.

Table 4.30: Family 37

	Participant A		**Participant B**		**Participant C**	
Family relation	Daughter		Mother		Father	
Year of birth	1995		1965		1966	
Language	Swedish		Finnish		Swedish	
Wave	W I	W III	W I	W III	W I	W III
Self perceived health	Good	Good	Good	-	Good	
Illness	No	No	No	No	No	
SOC	W 61	W 61	S 72	S 67	W 66	
SOFC	**Wave I: W 66**		**Wave III: W 64**			

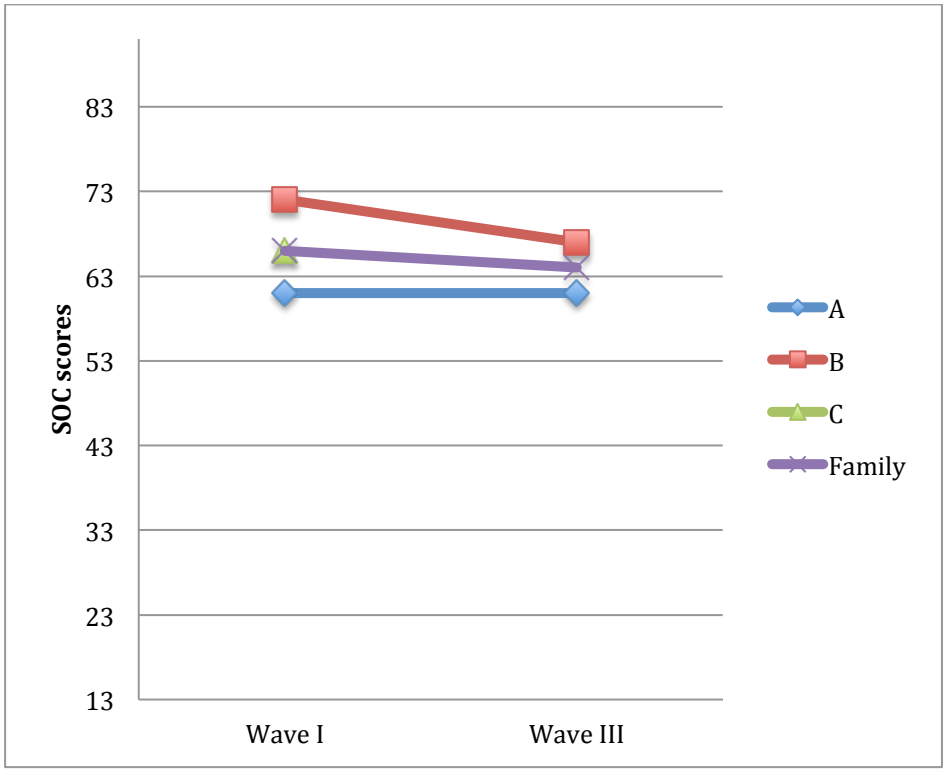
The factors that Family 37 stated to be essential for positive wellbeing were: *'having good health (physical and mental) for the individual and family', 'having a good time and eventful life', 'economic stability'* and *'having time to spend on a hobby'.* When asked in *wave* III what was important specifically for adolescent wellbeing Girl 37 stated having *'parents with a positive outlook on life and believing in their children'* as important. Mother 37 stated that *'having a peaceful home environment'* and *'good friends'* were the most important factors influencing adolescent wellbeing.

All members of family 37 claimed to be content with life. Both parents said that they only occasionally felt stressed. Father 37 claimed that stress usually was related to *'family'* or *'financial matters'.* Mother 37 said that the matters that stressed her were *'external issues such as global problems' or 'violence that seems to be an unfortunate part of life nowadays for adolescents.'* To combat stress Mother 37 said she spends time with her hobbies, which include riding and golfing. Girl 37 stated non-specifically that she only sometimes worried about *'different things'* and to combat stress she said she would hang out with friends and try not to think about what stresses her.

Girl 37 claimed that she felt she had parents who love her but she said that she felt that she couldn't talk to her parents about her problems. She felt cared for and expressed that she was aware that her parents *'want me to do well in life'* however she said that she felt as though they were pushing her too hard, she said *'I'm happy for a little push, but too much is too much'*. Girl 37 was a competent athlete competing at a high level in her field. She said she wished her father would show more trust in her ability as a sportsman as it would make competing easier. Mother 37 said she regarded the family as close and caring and claimed that they could talk about problems. No one in Family 37 mentioned intergenerational family communication at all. Mother 37 mentioned Christmas celebrations as a family tradition but Girl 37 claimed that they had no family traditions at all. Mealtimes were not shared during the week due to participation in hobbies. During weekends they sometimes ate together but according to Girl 37 most often they would eat their meals in different places despite eating at the same time.

There was a slight decline in the mother's SOC score between *waves I* and *III*, the daughter's SOC score remained the same (Figure 4.7). There was also a slight decline in the SOFC score.

Figure 4.7: Sense of Coherence: Individual and Family, in Family 37



4.4.1.8 Profile of Family 43

Boy 43 started with a strong SOC in a family with a strong SOFC and ended as a strong boy in strong family (Table 4.30). This *'strong family's'* respondents were boy 43 and his biological parents. He was the middle child of three siblings. The mother was a fulltime mother the father employed. All family members considered their health as good, although Boy 43 had been diagnosed with diabetes.

Table 4.31: Family 43

	Participant A		**Participant B**		**Participant C**	
Family relation	Son		Mother		Father	
Year of birth	1995		1961		1961	
Language	Swedish		Finnish		Swedish	
Wave	W I	W III	W I	W III	W I	W III
Self perceived health	Good	Good	Good	Good	Good	-
Illness	Yes	Yes	No	No	No	No
SOC	S 90	S 74	S 68	S 73	S 84	S 82
SOFC	**Wave I: S 81**		**Wave III: S 76**			

The factors Family 43 stated to be essential for positive wellbeing were having; *'good health', 'close happy family relationships', 'several good friends', 'satisfying work'* and *'a stable financial situation'.* When asked in *wave* III what was important specifically for adolescent wellbeing Boy 43 did not give any specific suggestions instead he stated *'I think that everything is fine as it is'.* Mother 43 stated that it would be good if *'families could spend more time together and be caught up less in performing continuous everyday tasks'.* She wished that the family's father would have more time to spend weekdays with the family. Father 43 stated that *'having interesting hobbies, good friends and a healthy lifestyle'* are important.

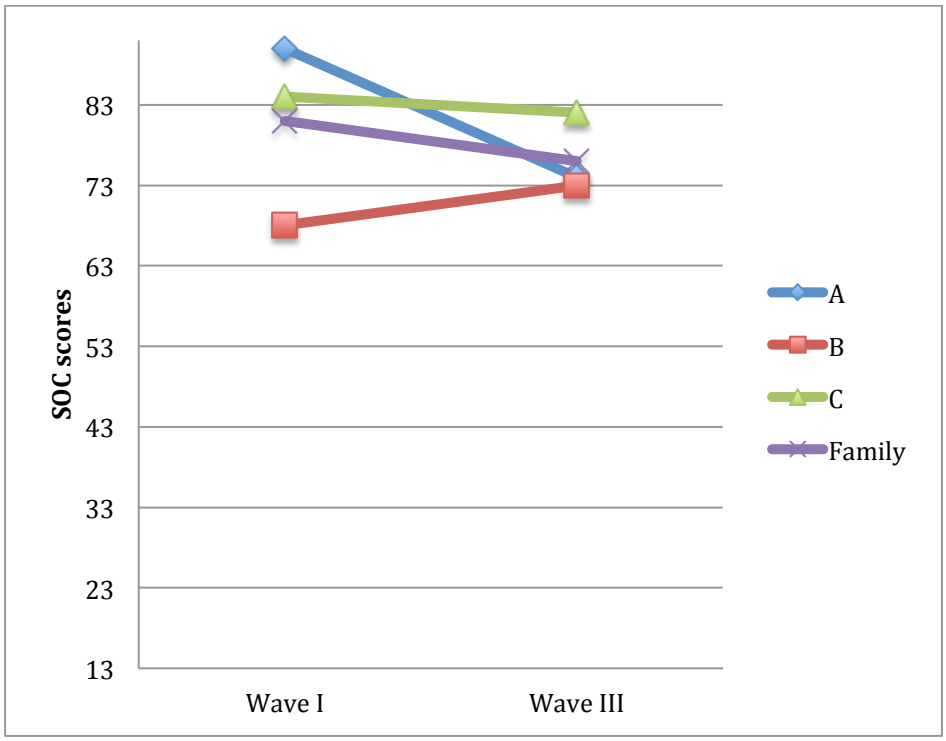
All members of Family 43 stated they were content with life. Both parents said they felt worried about '*their children's school success and future',* as well as the *'health of their own parents and their son's ability to manage his diabetes'.* To combat stress Mother 43 said she made sure to get enough rest and sleep and to eat healthily, she also made sure that she did things on time. Father 43 said that his approach to combating stress was to take it easy, analyse the situation and act without panicking and to try to solve potential problems. He said he also asked for help from work colleagues, family and friends if he felt he needed it.

Boy 43 said he sometimes worried a little bit about *'school'* and said that when he did he would think of other things to distract him.

Boy 43 said that he felt he had parents who cared for him and were affectionate towards him. Despite this he claimed not to feel loved and said that he did not feel close to his family and could not always talk to his parents about problems. Both parents claimed that the family relationships were close and loving.

There was a decline in the son's SOC between *waves I* and *III*, an increase in the mother's SOC and a very slight decline in the father's SOC (Figure 4.8). There was a slight decrease in the SOFC score.

Figure 4.8: Sense of Coherence: Individual and Family, in Family 43



4.4.1.9 Profile of Family 44

Boy 44 started with a strong SOC in a family with a strong SOFC and ended as a strong boy in strong family (Table 4.31). This family's respondents were Boy 44 and his biological parents. In *wave I* both parents answered the questionnaire; in *wave III* only the mother did. Boy 44 was the younger of two siblings. Both parents were employed. All family members considered their health to be good or very good, although the mother had been diagnosed with celiac disease.

Table 4.32: Family 44

	Participant A		**Participant B**		**Participant C**	
Family relation	Son		Mother		Father	
Year of birth	1995		1966		1963	
Language	Swedish		Finnish		Swedish	
Wave	W I	W III	W I	W III	W I	W III
Self perceived health	Good	Good	Good	-	Very good	
Illness	No	No	Yes	Yes	No	
SOC	S 77	S 75	S 70	W 64	W 66	
SOFC	**Wave I: S 71**		**Wave III: S 70**			

The factors Family 44 stated to be essential for positive wellbeing were having; *'friends', 'a family that is harmonious, works well together and has a shared understanding', 'having a nice home', 'being healthy', 'being able to work so you can support your family', 'having leisure time', 'being stress free', 'feeling safe from external threats'* and *'having a positive outlook on life'*. When asked in *wave* III what was important specifically for adolescent wellbeing Boy 44 stated that *'the family should not be stressed'*. Mother 44 stated that *'time for the family'* was extremely important. She said that there should be time to spend together that was not always filled with predetermined activities instead there should be more time for spontaneity. She stated that parents should do *'less overtime at work'* and *'the family should sit down to a shared meal every day'*.

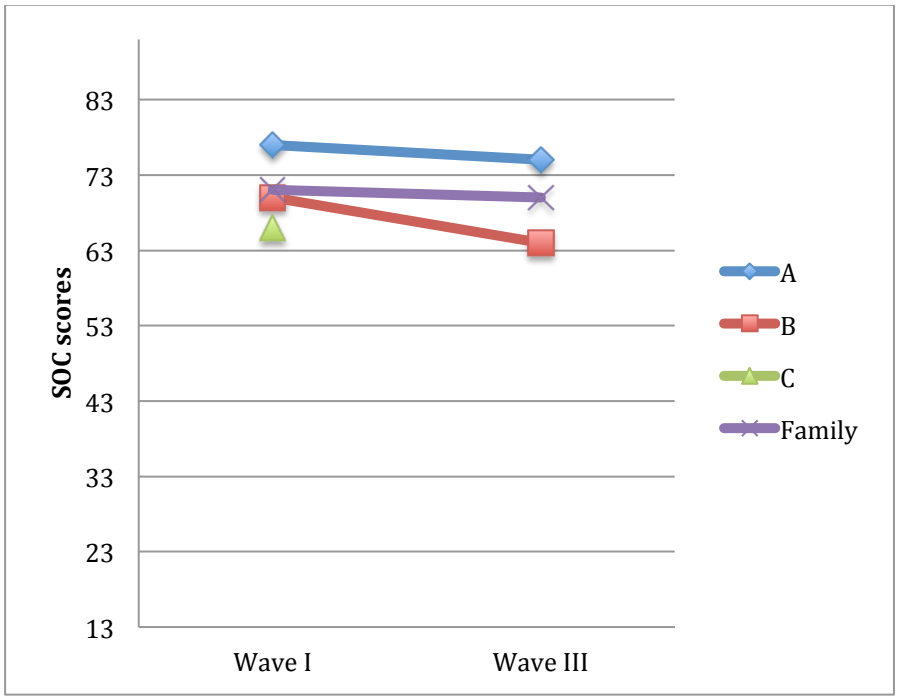
All members of family 44 claimed to be content with life. Father 44 claimed to be occasionally stressed by *'work related issues'* or *'family relationships.'* Mother 44 also claimed to be stressed occasionally stating that the *'health and wellbeing of her children'* is the main issue of stress. Other issues she mentioned as stressful were having *'too much work while simultaneously dealing with her own need to be a good mother'* and feeling that she *'didn't have enough time to do what she should be doing'*. She said she dealt with stress by

doing something she found pleasant like reading a book or meeting up with friends. However she said that exercise, for example going out for a run, was the most effective way to combat stress. Boy 44 said that he did not feel stressed and his way of avoiding stress was to take one day at a time and accept both the good and bad in life. Mother 44 commented on Boy 44's tolerance for stress and said that he was a calm, tolerant person who did not show signs of being demanding, either of others or of himself. She said that he was not a resentful or broody person and she believed that was a protective factor in life.

Boy 44 said that he felt he belonged to a caring, loving family. Despite this he felt that he could not always talk to his parents about his problems. According to him family life was *'wonderful with the exception of his sister stressing and yelling'*. Mother 44 echoed this. She also stated that she felt the family was loving and close but at the moment they were going through a phase influenced by 'tired teenage emotions.' Mother 44 continued to elaborate on this explaining how she experiences the wellbeing of the family is affected by the different phases that seem to occur in family life. Having two teenagers in the house at the same time was perceived as demanding as they bickered constantly. Mother 44 found this extremely tiring and emotionally draining as this led to, as she experienced it, unnecessary conflict situations that greatly affected her mental wellbeing.

There was a slight decline in the son's SOC between *waves I* and *III* and a greater decline in mother's SOC (Figure 4.9. The SOFC score remained virtually the same.

Figure 4.9: Sense of Coherence: Individual and Family, in Family 44



4.4.1.10 Profile of Family 45

Girl 45 started with a weak SOC in a family with a strong SOFC and ended as a weak girl in strong family (Table 4.32). This family's respondents were Girl 45 and her biological parents. In *wave I* both parents answered the questionnaire; in *wave III* only the mother did. Girl 45 was the eldest of two siblings. Both parents were employed. All family members considered their health to be good or very good, although Girl 45 said she suffered from migraines and her mother had been diagnosed with hypertension.

Table 4.33: Family 45

	Participant A		**Participant B**		**Participant C**	
Family relation	Daughter		Mother		Father	
Year of birth	1995		1967		1963	
Language	Swedish		Swedish		Finnish	
Wave	W I	W III	W I	W III	W I	W III
Self perceived health	Good	Good	Very good	-	Good	
Illness	No	Yes	Yes	Yes	No	
SOC	W 59	W 64	S 79	S 83	S 68	
SOFC	**Wave I: S 69**		**Wave III: S 74**			

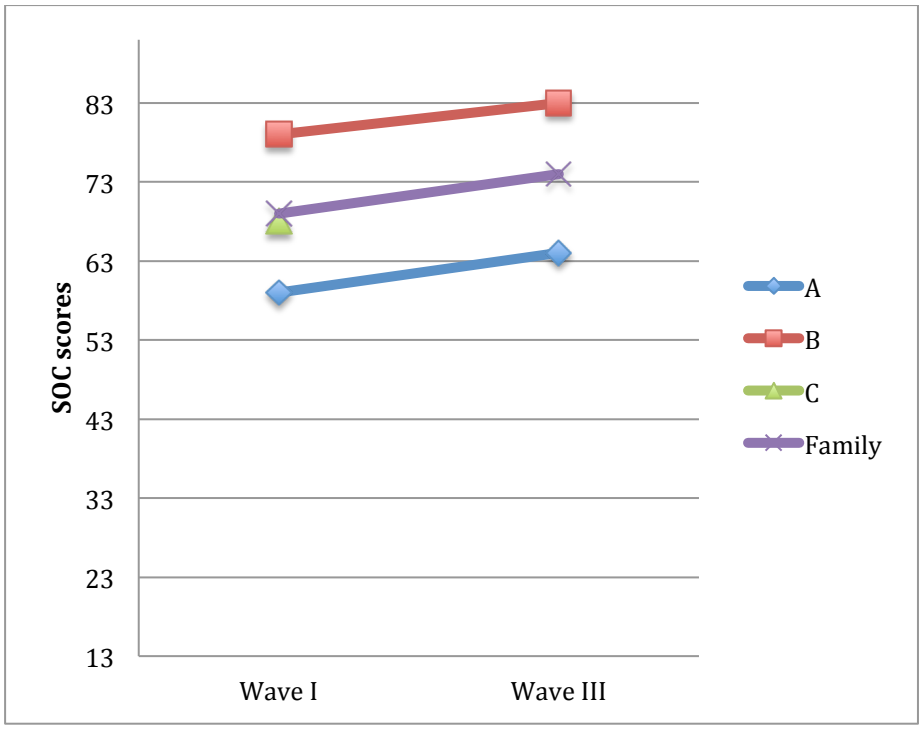
The factors that Family 45 stated to be essential for positive wellbeing were: *'having friends', 'good family relationships', 'time to spend with your family', 'having leisure time', 'having good health and being free from disease', 'having a healthy lifestyle', 'feeling free', 'feeling happy',* and *'feeling that you are content with yourself and that your life is meaningful'.* When asked in *wave* III what was important specifically for adolescent wellbeing Girl 45 stated *'having parents that would work less', 'having parents that would stress less'* and *'having good family relationships'.* Mother 45 stated it was important to *'have the family close and present, having time and possibility to do things together as a family'.*

All members of Family 45 stated they were content with life. Father 45 claimed not to be stressed but he did worry about his own *'health'.* Mother 45 stated that she only occasionally felt stressed and then it was *'work related issues'* or *'not having enough time to spend with the family'.* To combat stress Mother 45 said she tried not to work late and she tried to go home from work as early as possible. She made sure she used a good calendar so she could structure daily life tasks. She also said she tried to get some exercise. Girl 45 said that she felt stressed and worried about *'school and her grades', 'demands on looks and body image',* and *'her future'.* When she was stressed she tried to relax but claimed that she found it hard.

Girl 45 said that she felt she had parents who loved her and that she had a close relationship with them. She said that she could talk to her parents about her problems. However, because her mother was stressed a great deal of the time and her father was easily irritated, she was sometimes left with the feeling that they did not always care for her. Mother 45 said she experienced the family as being close, loving and having close relationships that made it easy to talk about problems.

There was an increase in all family member's SOC scores between *waves I* and *III* and also in the SOFC score (Figure 4.10).

Figure 4.10: Sense of Coherence: Individual and Family, in Family 45



4.4.1.11 Profile of Family 53

Girl 53 started with a strong SOC in a family with a weak SOFC and ended as a weak girl in weak family (Table 4.33). This family's respondents were Girl 53 and her biological parents. Her parents were still married but had been living apart for 5 years and she lived on an alternating basis in two homes speaking Finnish in one home and Swedish in the other. Girl 53 was the younger of two siblings. Both parents were employed. Girl 53 claimed in *wave I* that her health was good and in *wave III* not so good. Both parents considered their health to be good or very good, although the mother had a bad back and had also been diagnosed with depression and hyperthyreosis.

Table 4.34: Family 53

	Participant A		**Participant B**		**Participant C**	
Family relation	Daughter		Mother		Father	
Year of birth	1995		1957		1948	
Language	Finnish		Finnish		Swedish	
Wave	W I	W III	W I	W III	W I	W III
Self perceived health	Good	Not so good	Good	-	Good	-
Illness	No	No	Yes	Yes	No	No
SOC	S 72	W 58	W 62	W 52	W 58	W 63
SOFC	**Wave I: W 64**		**Wave III: W 58**			

The factors Family 53 stated to be essential for positive wellbeing were: *'having good health', 'having good relationships with friends and family', 'feeling that you are not alone and there is someone you can talk to', 'being able to talk to your children', 'security for children', 'having a balance between family and work life', 'having a job that gives you satisfaction', 'having a good life outside of work', 'having hobbies',* and *'feeling you are content with life'*. When asked in *wave* III what was important specifically for adolescent wellbeing Girl 53 stated that *'being able to do things you are good at and enjoy doing',* and *'being able to talk to your parents about anything'* are important. Mother 53 stated that a *'tidy house'* was important, but added that the children did not seem to think so. Father 53 said that *'time spent together as a family'* was important.

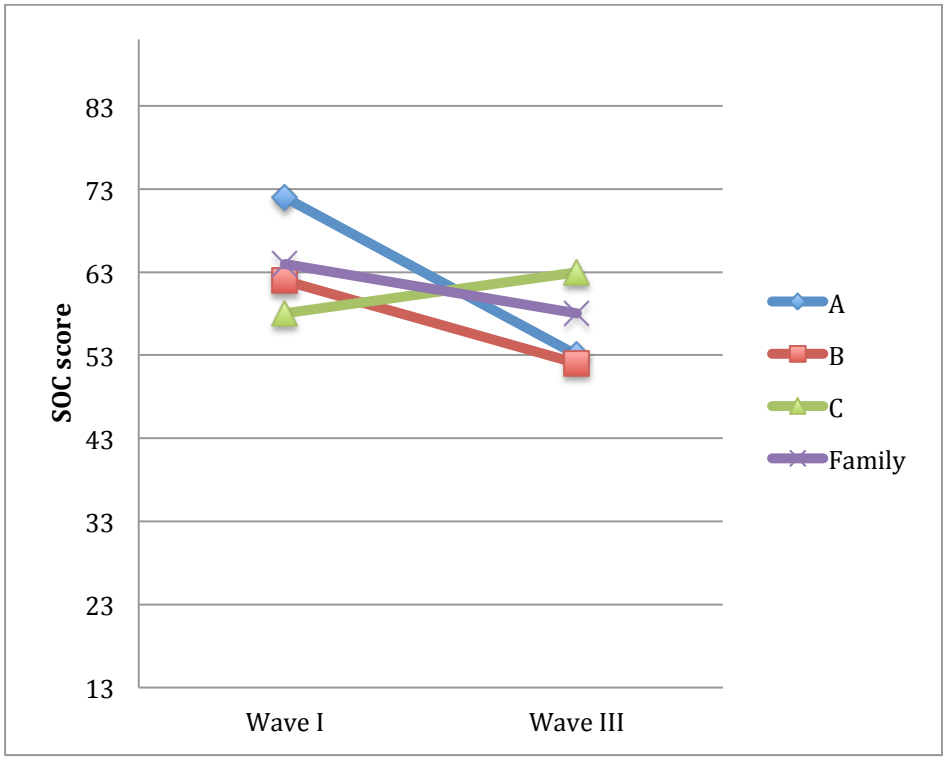
All members of Family 53 claimed to be content with life. Both parents stated that they occasionally felt stressed and then it usually was *'work'* or *'family'* related issues. To combat stress Mother 53 said she made sure to slow down at work, as usually most of her stress was work related. Father 53 said he combated stress by taking things easier and examining the

issues that stressed him to see if they were actually worth stressing over. Girl 53 said that she worried about *'falling out with her friend ('the only one I have')', 'exams',* and *'her health'* as she claimed to have unhealthy eating habits. She said that she would combat stress by taking walks in the woods with her dogs.

Girl 53 said that she felt she had parents who loved and cared for her but she was not content with the family relationship and felt that she and her parents talked too little, especially about her own problems. Girl 53 said she perceived communication with her father as difficult and this was echoed in her father's answers. Mother 53 said she was not content with how she experienced the family relationship. She elaborated on this by explaining that she has a bad conscience as she did not always know what is going on in her children's lives, they did not talk to her and when she asked questions they got irritated.

There was a decline in both the daughter's SOC score and Mother's SOC score and an increase in the Father's SOC score between *waves I* and *III* (Figure 4.11). There was a decrease in the SOFC score.

Figure 4.11: Sense of Coherence: Individual and Family, in Family 53



4.4.1.12 Profile of Family 64

Girl 64 started with a weak SOC in a family with a strong SOFC and ended as a strong girl in strong family (Table 4.34). This family's respondents were Girl 64 and her biological parents. In *wave I* both parents answered the questionnaire; in *wave III* only the mother. Girl 64 was the eldest of three siblings. Both parents were employed. All family members considered their health to be good or very good, although Girl 64 had been diagnosed with allergies.

Table 4.35: Family 64

	Participant A		**Participant B**		**Participant C**	
Family relation	Daughter		Mother		Father	
Year of birth	1995		1969		1969	
Language	Swedish		Finnish		Swedish	
Wave	W I	W III	W I	W III	W I	W III
Self perceived health	Good	Good	Good	Good	Very good	
Illness	Yes	yes	No	No	No	
SOC	W 64	S 65	S 80	S 68	S 76	
SOFC	**Wave I: S 73**		**Wave III: S 67**			

The factors Family 64 stated to be essential for positive wellbeing were: *'being healthy and having your basic needs met', 'having important, trustworthy and meaningful relationships', 'a loving partner and happy family life', 'feeling loved, having a safe home environment', 'financial security at least to the point of having no anxiety over your financial situation', 'feeling independent and successful',* and *'having visions of the future'.* When asked in *wave* III what was important specifically for adolescent wellbeing Girl 64 stated that *'having lots of friends is important but it is not only the quantity of friendships, it is important to look past labels and get to know people for who they really are'.* Mother 64 stated that it would be important to *'remove the stress and pressure to be beautiful and thin that is put on girls by the media and marketing companies'.*

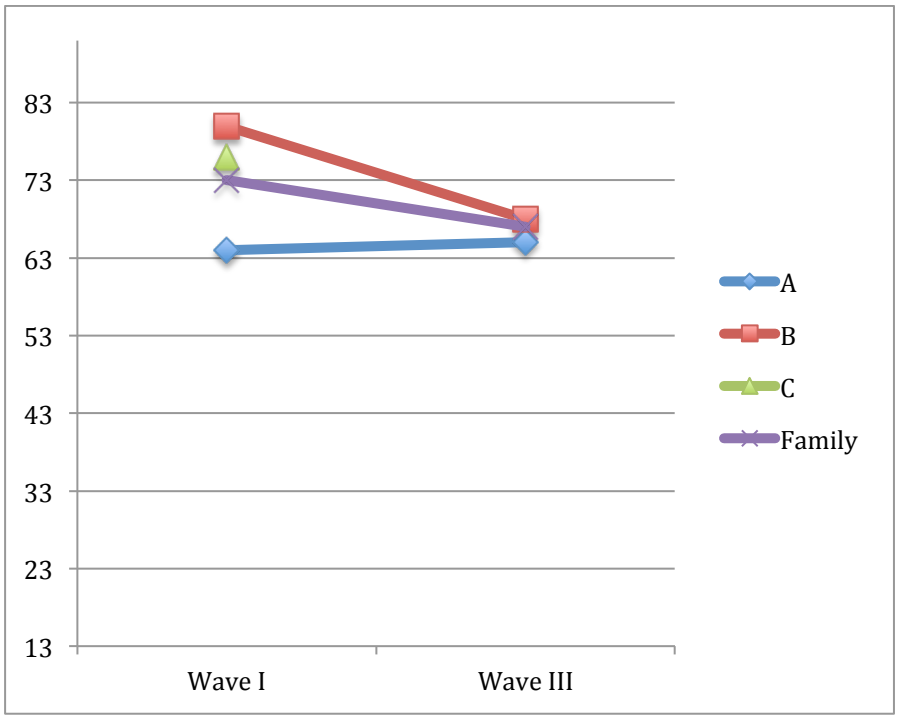
All members of Family 64 claimed to be content with life. Father 64 claimed he felt stressed occasionally and the issues that he worried about were *'global issues such as the world economy and the state of the Baltic Sea'.* Mother 64 said that she was stressed and the issues that caused most stress were related to *'work, her parents aging, her brother's divorce and how his children will cope with this'.* To combat stress she tried to take care of herself through doing interesting things, she had also taken a short sabbatical from work so that she

had time to focus on the family. Girl 64 said that she was worried about *'schoolwork',* and *'that something would happen to her family'.* She mentioned no specific strategies to combat stress other than 'not stressing about the things I don't care about.'

Girl 64 said that she felt she had parents who loved and cared for her and she was very content with the family relationship. She stated that she loved her family, had fun with her family and she said that she felt that everyone in it has an important role. She also mentioned feeling close to her extended family, especially her mother's sister who was her godmother. Mother 64 stated that the family was close, loving and could talk about problems however she also said that she felt that her family didn't really care about her.

There was a very slight increase for the daughter's SOC score and a decline in the mother's SOC score between *waves I* and *III* (Figure 4.12). There was a decline in the SOFC score.

Figure 4.12: Sense of Coherence: Individual and Family, in Family 64



4.4.1.13 Profile of Family 71

Girl 71 started with a weak SOC in a family with a weak SOFC and ended as a weak girl in weak family (Table 4.35). This family's respondents were Girl 71 and her biological parents. In *wave I* both parents answered the questionnaire; in *wave III* only the father. Girl 71 was the older of two siblings. The mother was a full time mother, the father was employed in *wave I* but unemployed in *wave III*. All family members considered their health to be good, although Girl 71 and her mother had been diagnosed with allergies and her father had been diagnosed as having high cholesterol.

Table 4.36: Family 71

	Participant A		**Participant B**		**Participant C**	
Family relation	Daughter		Mother		Father	
Year of birth	1995		1967		1957	
Language	Swedish		Finnish		Swedish	
Wave	W I	W III	W I	W III	W I	W III
Self perceived health	Good	Good	Good		Good	-
Illness	No	Yes	Yes		Yes	No
SOC	W 56	W 45	W 63		S 70	W 60
SOFC	**Wave I: W 63**		**Wave III: W 53**			

The factors Family 71 stated to be essential for positive wellbeing were: *'having many friends', 'having friends and family you enjoy being with', 'feeling loved', 'belonging to a good community', 'not being ill', 'having a job and a high enough standard of living', 'feeling happy', 'not having too many worries',* and *'looking forward to each new day as a positive experience'*. When asked in *wave* III what was important specifically for adolescent wellbeing Girl 71 stated that *'both parents in a family should have jobs'*. Father 71 left the question unanswered.

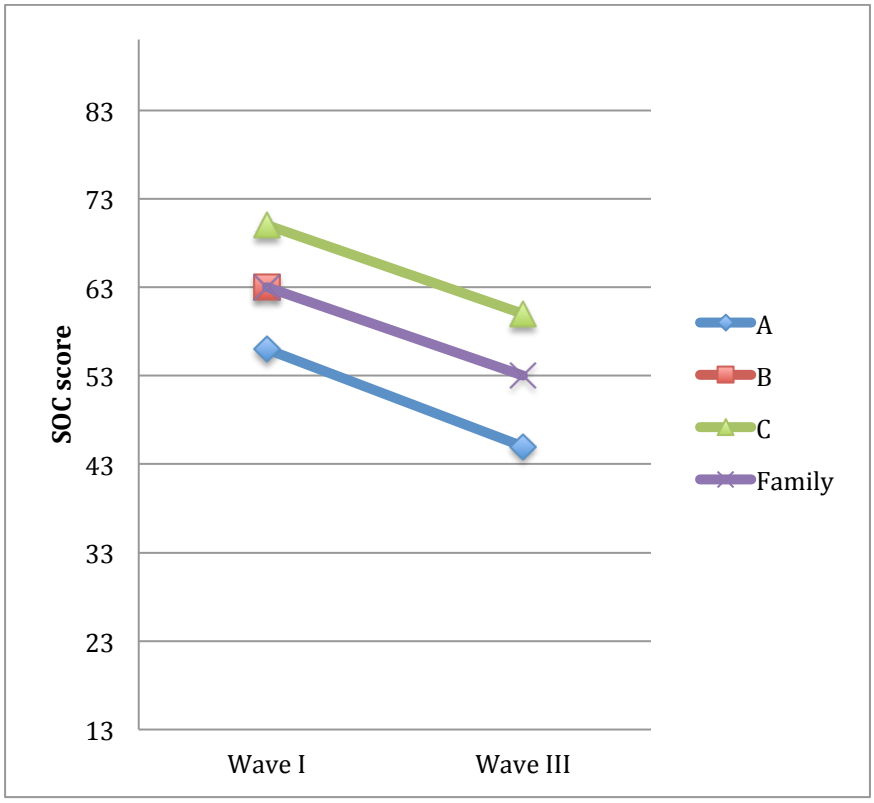
Initially, in *wave I*, all members of Family 71 claimed to be content with life. However, in *wave III* after the father becoming unemployed both Father 71 and Girl 71 claimed not to be content with life and both claimed to be stressed over the *'father's unemployment situation'*. Girl 71 said that she did nothing to combat stress; Father 71 however said that he exercised and tried to spend time with the family.

Girl 71 claimed that family life was good. She said she felt she had parents who loved her and cared for her. However, she said that she wasn't content with her relationship with her

parents and felt that she couldn't always talk to them about her own problems. She mentioned that outside the closest family she had close contact with both her godmother and grandfather. She said that she could talk to her godmother about different problems. Father 71 stated that he felt that he has a close relationship with his family but that that he was not always content with it.

There was a decline in both the daughter's and the father's SOC scores between *waves I* and *III,* as well as in the SOFC score (Figure 4.13).

Figure 4.13: Sense of Coherence: Individual and Family, in Family 71



4.4.1.14 Profile of Family 83

Girl 83 started with a strong SOC in a family with a strong SOFC and ended as a weak girl in strong family (Table 4.36). This family's respondents were Girl 83 and her biological parents. In *wave I* only her father answered the questionnaire; in *wave III* both parents did. Girl 83 was the younger of two siblings. Both parents were employed. Girl 83 and her father considered their health to be very good, although Girl 83 had been diagnosed with allergies. Her mother considered her health as not so good and she had been diagnosed with migraines.

Table 4.37: Family 83

	Participant A		**Participant B**		**Participant C**	
Family relation	Daughter		Mother		Father	
Year of birth	1995		1961		1964	
Language	Swedish		Finnish		Swedish	
Wave	W I	W III	W I	W III	W I	W III
Self perceived health	Very good	Good		Not so good	Very good	-
Illness	Yes	Yes		Yes	No	No
SOC	S 81	W 60		S 71	S 88	S 85
SOFC	**Wave I: S 85**		**Wave III: S 72**			

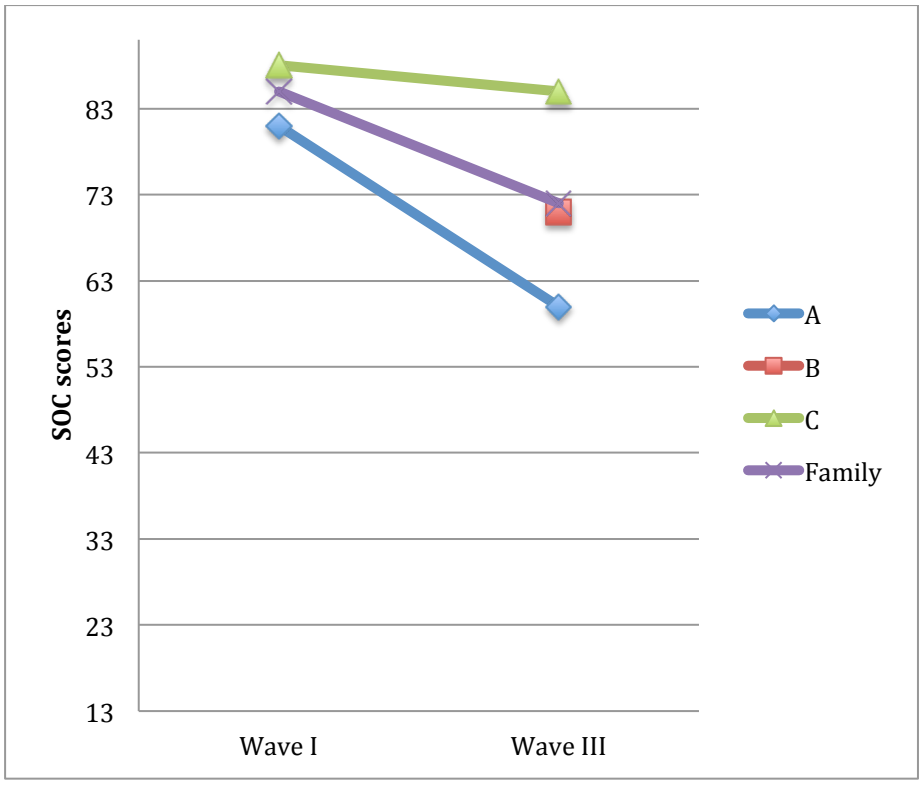
The factors Family 83 stated to be essential for positive wellbeing were: *'having friends', 'having good health', 'good family relationships', 'having leisure time', 'feeling successful', 'feeling full of energy', 'feeling motivated',* and *'feeling happy and content with yourself'.* When asked in *wave* III what was important specifically for adolescent wellbeing Girl 83 stated that *'families should spend time together at home', 'eat healthily',* and *'not have financial problems or other worries'.* Mother 83 stated that *'parents should work less as working takes away from time spent with family'.* Father 83 said that *'the family should spend time together, for example travel together'.*

All members of Family 83 claimed to be content with life. Both parents stated that they only occasionally felt stressed and then it usually was *'work related issues'.* To combat stress Mother 83 said she would pray, rest and read while Father 83 said he would take the dog for a walk or go cycling. Girl 83 said that she felt stressed and the issues that she worried about were *'school, her friend's problems and the family's financial problems'.*

Girl 83 said that she felt she had parents who loved her and cared for her but she was not content with her relationship with them and felt that she could not talk to her parents at all about her problems. She said that they *'hardly ever fight, but on the other hand we are never really together like a family'*. Mother 83 echoed this even though she, in contrast to her daughter, claimed that as a family they could talk about problems. Father 83 said he felt that family life was fine and felt there were no relationship or communication problems.

There was a considerable decline in the daughter's SOC score but only slight declines in the father's SOC score between *waves I* and *III* (Figure 4.14). There was a decline in the SOFC score.

Figure 4.14: Sense of Coherence: Individual and Family, in Family 83



4.4.1.15 Profile of Family 92

Girl 92 started with a strong SOC in a family with a strong SOFC and ended as a strong girl in strong family (Table 4.37). This family's respondents were Girl 92 and her biological father. The mother did not participate in the study at all. Girl 92 was the eldest of two siblings and lived with both her mother and father. The father was employed. No information was given about the mother. Girl 92 and her father considered their health to be very good, although the father had been diagnosed with diabetes.

Table 4.38: Family 92

	Participant A		**Participant B**		**Participant C**	
Family relation	Daughter		Father			
Year of birth	1995		1955			
Language	Swedish		Swedish			
Wave	W I	W III	W I	W III		
Self perceived health	Good	Very good	Very good	-		
Illness	No	No	No	Yes		
SOC	S 81	S 78	S 87	S 88		
SOFC	**Wave I: S 84**		**Wave III: S 83**			

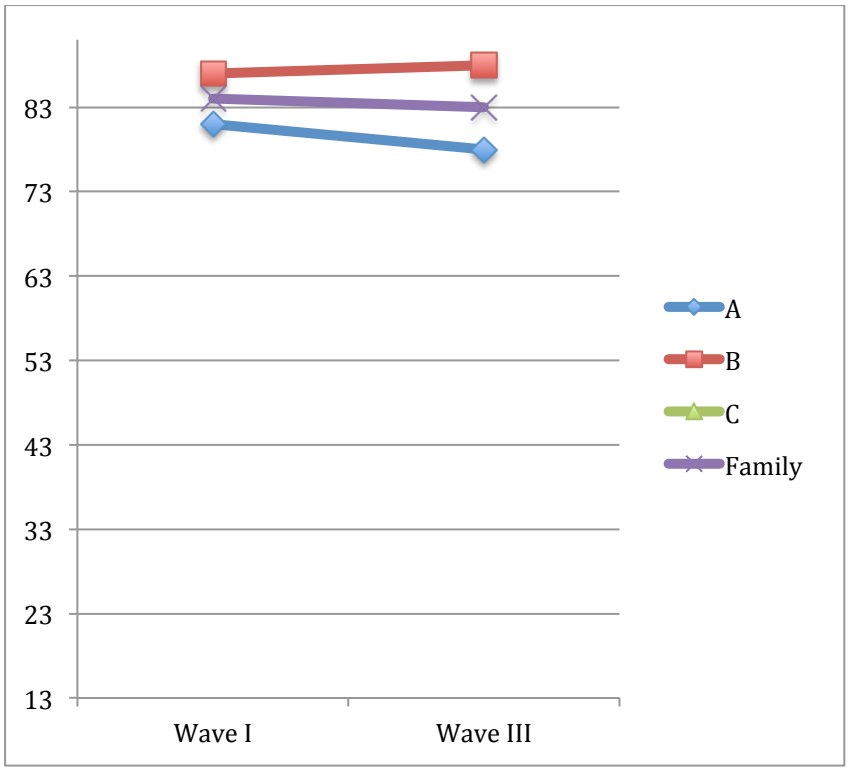
The factors Family 92 stated to be essential for positive wellbeing were: *'having friends that are faithful and care about you', 'that you have a harmonious family', 'a happy family', 'a safe home free from domestic abuse', 'that you are healthy; especially have good mental health', 'that you have an interesting, challenging and meaningful job', 'that you have financial security',* and *'that you feel there is a purpose to your life'.* When asked in *wave* III what was important specifically for adolescent wellbeing Father 92 answered that most important is *'a harmonious family', 'that there has to be trust between children and parents, but there must also be boundaries',* and *'it is important to know what you are and are not allowed to do'.* Girl 92 did not answer the question.

Both members of Family 92 said that they were content with life. Girl 92 said that she did not feel stressed or worried about anything in particular and whenever she felt stressed she would combat stress by doing things she enjoyed like exercising and listening to music. Father 92 said that he was stressed only occasionally by *'work related issues'* and when he was he would combat stress by spending time with family or being innovative in coming up with a solution to problems. He said that when it came to stress his motto was: *'Things will sort themselves out'.*

Girl 92 claimed that she felt she had parents who love her and care for her. She said she was content with her relationship with her parents, however she also said that she felt that she could not always talk to her parents about her own problems. Father 92 also said he was content with the family relationship. However, unlike Girl 92 he claimed that in the family they spoke openly about problems.

There was a slight decline in the daughter's SOC score between *waves I* and *III* and a slight increase in the father's SOC score (Figure 4.15). The SOFC score remained virtually the same.

Figure 4.15: Sense of Coherence: Individual and Family, in Family 92



4.4.1.16 Profile of Family 93

Girl 93 started with a strong SOC in a family with a strong SOFC and ended up as a strong girl in strong family (Table 4.38). This family's respondents were Girl 93 and her biological parents. In *wave I* both parents answered the questionnaire; in *wave III* only her mother did. Girl 93 was the eldest of two siblings. She has two older half siblings from her father's earlier marriage. Both parents were employed. All family members considered their health to be very good, although the mother had been diagnosed with allergies, asthma, and panic attacks.

Table 4.39: Family 93

	Participant A		**Participant B**		**Participant C**	
Family relation	Daughter		Mother		Father	
Year of birth	1995		1961		1961	
Language	Swedish		Finnish		Swedish	
Wave	W I	W III	W I	W III	W I	W III
Self perceived health	Very good	Very good	Very good	-	Very good	
Illness	No	No	Yes	Yes	No	
SOC	S 67	S 70	S 82	S 82	S 74	
SOFC	**Wave I: S 74**		**Wave III: S 76**			

The factors Family 93 stated to be essential for positive wellbeing were: *'having your basic needs met', 'being healthy', 'economic wellbeing', 'having friends and family (including extended family) that you get support from and have good relationships with', 'experiencing a sense of security', 'feeling content with oneself',* and *'enjoying life'.* When asked in *wave* III what was important specifically for adolescent wellbeing Girl 93 stated that *'parents should support adolescents', and 'show trust by not having unnecessary rules forbidding them to do things'.* Mother 93 stated that it was important to *'get enough exercise and fresh air by being outside more'.* She also mentioned that *'school should help alleviate stress in adolescents by making sure that there are not too many exams and projects going on at the same time and it should also be easier to get support in school (such as remedial education) if needed'.*

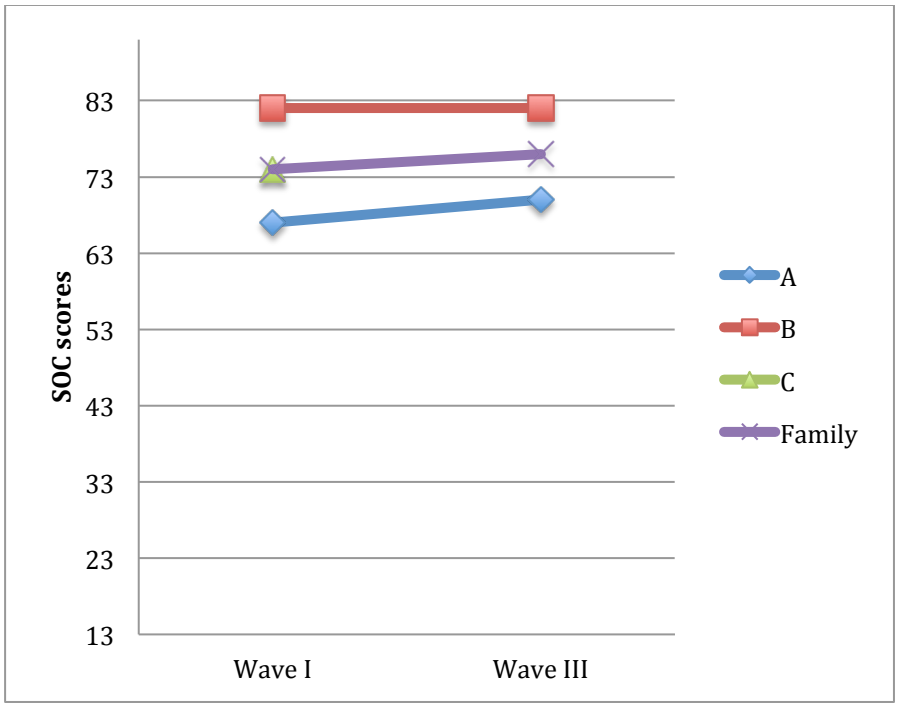
All members of Family 93 claimed to be content with life. Both parents stated that they only occasionally felt stressed. Father 93 said he was mostly worried about *'finances',* while Mother 93 said she worried over a variety of issues such as *'the children's education, the health of the family, lack of time, finances (only sometimes) and the health of one of the*

family pets'. To combat stress Mother 93 said she focused on eating healthy, getting enough sleep, riding and enjoying a glass or two of wine during the weekend. Girl 93 said that she did not feel stressed, however she did worry sometimes about '*getting good enough grades to continue with her studies',* and also *'what the future has in store for her; will she get a good job?*'. She said had no specific strategies for dealing with stress.

Girl 93 claimed that she felt she had parents who loved her and cared for her. She was content with the relationship, experiencing that she and her parents could talk about any problems. She highlighted that her parents trusted her, however she did sometimes feel that she was not allowed to do things her peers were allowed to do. Mother 93 said she was not as content with the family relationships as her daughter was. She clarified this by emphasizing that it was the parental relationship that was her concern. Lack of time, daily life demands and financial issues caused conflict. She said these conflicts made her feel bitter. They did however not cause fights but she expressed that it would perhaps be better to discuss and fight instead of internalizing feelings of frustration.

There was a slight increase in the daughter's SOC score between *waves I* and *III* while the mother's SOC score remained the same (Figure 4.16). The SOFC score increased slightly.

Figure 4.16: Sense of Coherence: Individual and Family, in Family 93



4.4.1.17 Profile of Family 94

Boy 94 started with a strong SOC in a family with a strong SOFC and ended up as a strong boy in strong family (Table 4.39). This *'strong family's'* respondents were Boy 94 and his biological mother. The father did not participate in the study. Boy 94 was the eldest child of two and lived with his divorced mother. The mother was employed. Boy 94 and his mother both considered their health to be good or very good, although the mother had been diagnosed as pre-diabetic and having allergies.

Table 4.40: Family 94

	Participant A		**Participant B**		**Participant C**	
Family relation	Son		Mother			
Year of birth	1995		1961			
Language	Swedish		Finnish			
Wave	W I	W III	W I	W III		
Self perceived health	Very good	Very good	Good	-		
Illness	No	No	Yes	No		
SOC	S 81	S 84	S 70	S 83		
SOFC	**Wave I: S 76**		**Wave III: S 84**			

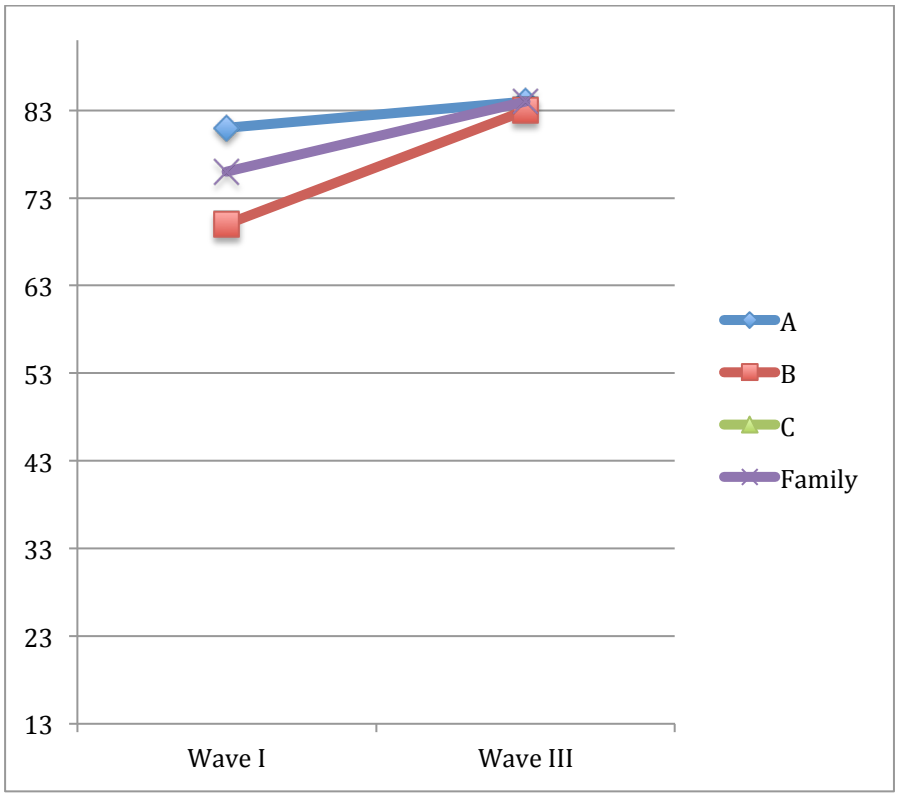
The factors Family 94 stated to be essential for positive wellbeing were: *'having a healthy lifestyle', 'having a family', 'having good friends', 'having good relationships with friends and family (also the extended family)', 'having hobbies and a job that you enjoy doing',* and *'having financial security'.* When asked in *wave* III what was important specifically for adolescent wellbeing Boy 94 stated *'having a relaxed relationship with parents'.* Mother 94 stated that having *'parents who sets boundaries was one of the most important factors influencing adolescent wellbeing, as this shows that you care'.* She also mentioned having *'regular routines such as set mealtimes, getting enough sleep, doing exercise, going to school, and being with friends'* as well as having *'a diverse range of social contacts with peers, family, grandparents and extended family'* as important factors influencing adolescent wellbeing.

Both members of family 94 claimed to be content with life. Mother 94 said she felt stressed occasionally and the issues that worried her were *'job security, the family's financial situation, her son's education and his friend relationships'.* To combat stress she said she tried to exercise regularly and read books. Boy 94 claimed that he was never stressed and he did not mention worrying about anything in any of the surveys.

Boy 94 said he was content with family life. He only briefly mentioned the existence of a father and a brother, when he stated that during the last few years his relationship with his mother, brother and father had deteriorated. He stated that he experienced family relationships as OK. However he said that he didn't always experience his relationship with his parents as loving and caring. He said that he wasn't sure if he felt loved. He said he felt he couldn't talk with his parents about his problems, mentioning that he felt his mother was too involved in his life and interfered too much. Mother 94 did not mention his father or brother at all. Boy 94 mentioned his relationship with his uncle as important stating *'he has been like a father for me'*. Mother 94 said that she was content with her family relationships, however she claimed that she felt that her family did not really care about her and she found it hard to talk about problems in the family.

There was an increase in both the son's SOC score and mother's SOC score between *waves I* and *III*, as well as in the SOFC score (Figure 4.17).

Figure 4.17: Sense of Coherence: Individual and Family, in Family 94



4.4.1.18 Profile of Family 96

Girl 96 started with a weak SOC in a family with a strong SOFC and ended up as a weak girl in strong family (Table 4.40). This family's respondents were Girl 96 and her divorced biological parents. She lived on an alternating basis in two homes with her father and mother, speaking Swedish in one home and Finnish in the other. In *wave I* both parents answered the questionnaire; in *wave III* only the mother did. Girl 96 was the younger of two children. Both parents were employed. All family members considered their health to be good or very good.

Table 4.41: Family 96

	Participant A		**Participant B**		**Participant C**	
Family relation	Daughter		Mother		Father	
Year of birth	1995		1957		1953	
Language	Swedish		Finnish		Finnish	
Wave	W I	W III	W I	W III	W I	W III
Self perceived health	Good	Very good	Very good	-	Very good	
Illness	No	No	No	No	No	
SOC	W 50	W 55	S 82	S 78	S 71	
SOFC	**Wave I: S 68**		**Wave III: S 67**			

The factors Family 96 stated to be essential for positive wellbeing were: *'feeling everything is good', 'being reliable', 'that you have what you need', 'family', 'a good job', 'making enough money', 'being healthy', 'having work', 'good family relationships', 'being happy with your life', 'being surrounded by people who care', 'that you lack nothing',* and *'that you are happy and content with yourself and those closest to you'.* When asked in *wave* III what was important specifically for adolescent wellbeing Girl 96 stated *'having a good relationship with parents', 'having close relationships with friends',* and *'trust from parents to take responsibility over choices in your life (like letting you eat what you want)'.* Mother 96 stated that *'having support', 'having basic needs met', 'feeling understood', 'that she (daughter) feels that she is treated equally to her brother, peers, and classmates',* and *'to have interesting hobbies'* are important for adolescent wellbeing.

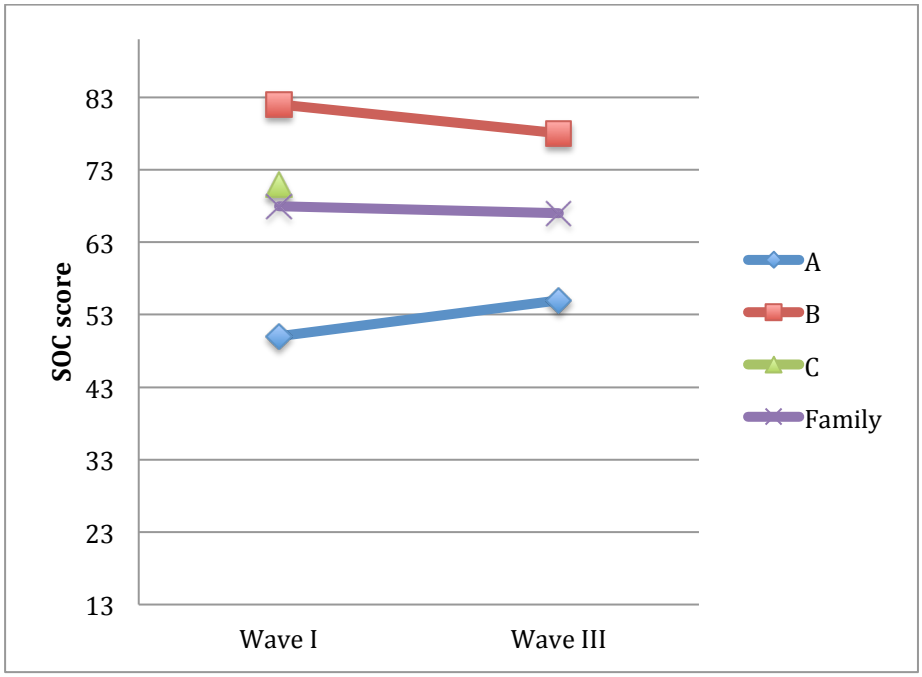
Both parents of family 96 claimed to be content with life. Girl 96 said she was not content and claimed to be stressed. The issues she worried about most were her *'looks and body image',* she was not happy with her body. She also worried about *'school',* and *'having a feeling that was too much to do and not enough time to complete everything'.* To combat

stress she said she tried to just take one day at a time and not worry about the future. Both parents stated that they occasionally felt stressed. Father 96 mentioned *'work related issues such as a heavy workload or busy timetables'*. Mother 96 said she worried more about broader issues such as *'world politics, the children's futures, or her own health when she will be retiring'*. To combat stress Mother 96 tried to get enough sleep, exercise and makes sure not to work when she is at home or during weekends.

Girl 96 said that she felt that she did not have a close relationship with her family. She was not sure if she felt loved and she said that she felt that she could not speak to her family about her problems at all. She favoured her relationship with her father as she felt that he was more lenient, giving her more freedom than her mother did. She claimed that as a family they did nothing together, except sometimes eating together and this usually happened only as one shared meal during the weekend. Her mother, who stated that she was not happy with family relationships, felt that she did not have fun with her family and she said that she could not talk to them about any of her problems.

There was a slight increase in the daughter's SOC score between *waves I* and *III* and a slight decrease in the mother's SOC score (Figure 4.18). The SOFC score remained virtually unchanged.

Figure 4.18: Sense of Coherence: Individual and Family, in Family 96



4.4.2 Summary and interpretation of findings from the 18 families

The 18 family profiles presented in the previous subsection highlight the diversity of family life. When comparing the findings from families with strong SOFC scores to families with weak SOFC scores it became evident that there was no one single factor that could be used to explain differences in the SOFC scores. Both families, with strong and with weak SOFC scores, often gave comparable answers to the survey questions. Slight differences found between families with strong and weak SOFC scores emerged when answers to open-ended qualitative questions were compared individually and within groups, and were matched with quantitatively generated descriptive statistics. Twelve out of 18 families had strong SOFC scores and the remaining 6 had weak SOFC scores. Table 4.41 shows the movement of adolescents between categories of strong or weak SOC and SOFC.

Table 4.42: Adolescents in strong and weak SOFC families, Wave I and III

	Wave I		**Wave III**	
N=18	**SOFC Strong 67-85**	**SOFC Weak 42-66**	**SOFC Strong 67-85**	**SOFC Weak 42-66**
AD SOC Strong 65-90	G7, G12, G23, B43, B44, G83, G92, G93, B94	G17, G19, G27, G53	G7, G12, B43, B44, G64, G92, G93, B94	-----
AD SOC Weak 40-64	G45, G64, G96	G37, G71	G23, G45, G83, G96	G17, G19, G27, G37, G53, G71

G= Girl, B= Boy

These findings suggest that it is better for adolescents and their SOC to be situated in a family with a strong SOFC score than to be situated in a family with a weak SOFC score. Two thirds of adolescents (12; *n*=18) were situated in families with strong SOFC scores. Nine adolescents had strong SOC scores and three had weak SOC scores. There was a decline, averaging eight points, in the SOC scores of adolescents with strong SOC scores between *waves I* and *III*. This decline was less than the 10 per cent decline of the overall SOC mean score measured for all the adolescents who participated between *waves I* and *III*. The majority of adolescents situated in families with strong SOFC scores retained their strong SOC score. All of the adolescents with weak SOC scores situated in families with strong SOFC scores experienced an increase in their SOC scores. The findings seem to indicate that a strong SOFC has a positive effect on adolescent SOC scores, whereas a weak SOFC has a negative effect on adolescent SOC scores. Five out of six adolescents situated in families with weak SOFC scores had a decline in their SOC scores between *waves I* and *III.* There was a decline, averaging 25 points, in the SOC scores of adolescents with strong SOC

scores. All four adolescents in *wave I* with strong SOC scores situated in families with weak SOFC scores had weak SOC scores in *wave III*.

The findings suggest that it is not the strength of the SOFC alone that seemed to be beneficial for adolescent SOC. It seems that having two parents in the home is a better protection against a decline in adolescent SOC scores than just having one parent. In *wave I* three quarters of adolescents (9; *n*=12) situated in families with strong SOFC scores lived with both parents. Seven of these adolescents had strong SOC scores and two had weak SOC scores. Five of the seven adolescents with strong SOC scores retained strong SOC scores. Half of the adolescents (3; *n*=6) situated in families with weak SOFC scores had parents who were divorced and lived on an alternating basis in two homes. All of these adolescents underwent a decline in SOC scores and went from having strong SOC scores to weak SOC scores. Several parents and adolescents from divorced or remarried families claimed that the dynamics of blended families or changed family constellations could be a challenge for both adolescents and parents and that these challenges did have an effect on wellbeing. Adolescents living in a home with both parents were more content with family life than adolescents living on an alternating basis in two homes. Two thirds of the adolescents situated in families with strong SOFC scores were content with their family life, compared to only half of the adolescents in families with weak SOFC scores. A decrease in SOC scores was found in half of the adolescents situated in families with strong SOFC scores when they were not content with family life. In comparison, a decrease in SOC scores was found in all adolescents situated in families with weak SOFC scores when they were not content with family life.

There was little difference found between families with strong SOFC scores and families with weak SOFC scores concerning the factors that families considered essential for wellbeing. However, families with strong SOFC scores were much more elaborate in their description of factors important for adolescent wellbeing. All families with strong SOFC scores considered relationships as one of the most significant factors influencing adolescent wellbeing. In comparison, only two thirds of families with weak SOFC scores mentioned relationships as being important. Relationships were often specified as 'family relationships' or 'having friends.' The main difference between families with strong SOFC scores and families with weak SOFC scores was the way these relationships were articulated. Most members of families with weak SOFC scores mentioned having *many* friends or having *good* relationships with family and friends, but did not elaborate further with the exception of one family where the importance of having good *caring* friends was mentioned. However, several members of families with strong SOFC scores elaborated on relationships; describing

relationships that were *close*, *happy*, *important*, *trustworthy*, *meaningful* or *supportive* with *people that were important to them*. Parents with strong SOC scores acknowledged the importance of extended family, trustworthy peer relationships and reliable adult relationships outside the immediate family for adolescent wellbeing. Throughout the study both adolescents and parents perceived peer relationships as being important for adolescent wellbeing. However, the quality, not quantity of peer relationships became more important in *wave III*. A possible inference of the findings is that individuals with strong SOC scores recognize the wide-ranging consequences that relationships have on health and wellbeing better than individuals with weaker SOC scores.

Having *good health* was mentioned as an important factor contributing to wellbeing by all families with a strong SOFC score, in comparison to only two thirds of families with a weak SOFC score. The majority of adolescents and parents perceived themselves as being in good health despite several of them having an illness diagnosed by a doctor. According to the findings serious illness was more prevalent in families that had a decline in SOC scores than in families that maintained relatively stable SOC scores. Families with weak SOFC scores often gave monosyllabic or short answers to health related questions whilst members of families with strong SOFC scores elaborated on health. Individuals with strong SOC scores mentioned both individual and family health, as well as physical, social and mental dimensions of health. Parents with strong SOC scores gave examples of factors found in family contexts that they believed to promote a healthy lifestyle more often than parents with weak SOC scores. The findings suggest that parents of families with strong SOFC scores recognize the responsibility and the opportunities parents have in influencing health and wellbeing in adolescents.

Parents in families with strong SOFC scores suggested that intra family dynamics with an influence on wellbeing were created by showing adolescents that they are loved and cared for. Creating harmonious, supportive and relaxed family environments with rules and boundaries, giving adolescents a sense of security, achieved this. Both adolescents and parents with strong SOC scores felt that most rules in the family were flexible and negotiable. In contrast, parents with weak SOC scores emphasized the importance of having strict rules in order to control the behaviour of the adolescents in their families. Adolescents with weak SOC scores experienced their parents setting too many rules or setting family rules which were too strict. These findings suggest that positive intergenerational relationships enhance wellbeing and that a strong SOC in adolescents requires good communication with parents who show trust and give support so that adolescents can learn to start taking responsibility for their own lives.

Feeling content, enjoying life, experiencing life as meaningful and looking forward to and having visions for the future was mentioned as important for wellbeing by families with both strong and weak SOFC scores. One example can be seen in a father who, in *wave I*, had the study's weakest SOC score and did not answer the question concerning what was considered important for wellbeing. He did however express being stressed, not content with life and lacking a vision for his personal future. In *wave III* his SOC score increased by 20 points and he stated then that being able to enjoy life was important for wellbeing. Both families with strong and weak SOFC scores said that a balanced family life, experiencing the 'ups and downs in life' in a balanced fashion and being able to maintain a balance between family life and work and/or school are important for wellbeing. Frequently, when families mentioned a balanced life, they mentioned *time* as an important resource contributing towards their wellbeing. Time was commented on in relation to both the self and the family. Many parents mentioned being stressed due to work related issues. The most common complaint they had was having too much work and this interfering with the amount of time that they could spend with their children. Several parents and adolescents claimed that they did not have enough time to complete daily tasks. This led to stress and a feeling of diminished wellbeing. Several adolescents mentioned experiencing changes in the dynamics of their relationship with family during the three years of the study. They said these changes affected how content they felt with family life. Parents also experienced changes in family dynamics. Several parents with strong SOC scores said that they believed that having more time to spend together as a family would enhance intergenerational communication, leading to improved child-parent relationships, which in turn would benefit adolescent wellbeing. These findings suggest that the development of SOC is not only influenced by the actions and processes that take place in the individuals' present life situation, but that it is also influenced by past experiences and future life expectations.

Almost all parents highlighted the importance of financial stability and security for achieving wellbeing. Having a job, preferably one that was satisfying, was considered most important for wellbeing. The findings showed that unemployment and job related stress were issues influencing the wellbeing of the whole family. In one family, with a weak SOFC score, the father faced unemployment several times between *waves I* and *III*. During this time there was a decline in the SOFC score. This father stressed the importance of having a job for wellbeing in general, but left unanswered the question of what is important specifically for adolescent wellbeing. The adolescent in this family addressed this issue and said that it would be important, specifically for adolescent wellbeing, that both parents in the family should have jobs. All families stated that they felt stressed occasionally. Work, global concerns, finance and health related matters were the main issues that parents worried about.

Adolescents worried mainly about puberty related developmental issues, peer relationships, school and their future. Serious matters such as unemployment, financial difficulties and illness had a negative effect on the SOC scores of individuals, which could be seen especially in adolescent girls. Several differences were found in how families with strong and weak SOFC scores handled stress. Families with strong SOFC scores often had active stress management strategies and these had an impact on both the self and the family. These strategies included making lifestyle changes influencing health, such as increasing exercise, spending more time with the family, prioritizing tasks in order to avoid stress, having good time management skills and adopting a positive attitude towards stressors. Family members with weak SOFC scores on the other hand had stress management strategies that mainly affected themselves, such as taking time out to be alone and do things they enjoyed. The girls with the biggest decrease in SOC scores were ones that had deflective stress management strategies, such as watching movies in order to avoid thinking about the cause of stress.

In conclusion the interpretation of the findings generated from the 18 family profiles supports the interpretation of the data findings presented in subchapters 4.2 and 4.3. Adolescents and parents, with both strong and weak SOFC scores, quite often gave comparable if not similar answers to survey questions. However, a distinct difference was found in *how* most family members of families with strong SOFC scores articulated their answers. Individuals with strong SOC scores and families with strong SOFC scores voiced an understanding (*comprehensibility*) of beliefs, facts and values they deemed important for health and wellbeing (*meaningfulness*). They also gave insight into which actions are needed and should therefore be taken (*manageability*) when aiming to promote the health and wellbeing of adolescents. This suggests that individuals and families with strong SOC scores have good health literacy skills. This was an unexpected finding, as the study did not set out to investigate health literacy. As the findings have suggested that the relationship between SOC and SOFC is reciprocal with a strong SOFC promoting the development of a strong SOC, it is feasible that a strong SOC is both a creator and a result of good health literacy skills.

4.5 Chapter summary

The purpose of this chapter was to present the findings obtained from the analysis of data from all three waves of the study. The findings were presented first as findings generated from quantitative data pertaining to Sense of Coherence. Secondly, as mixed method findings generated from inductive qualitative content analysis from open-ended questions and quantitative data pertaining to adolescent SOC, and finally as 18 narrative profiles of strong and weak families. The next chapter will present a detailed discussion of the findings.

Chapter Five – Discussion

5.1 Introduction

The previous chapter presented the findings of this study. This chapter discusses the key findings in relation to theories, practice, policies and research. It does this by critically reflecting on the concepts Sense of Coherence and Sense of Family Coherence, and by exploring determinants related to the developmental process of SOC in adolescents. This chapter also discusses, through a framework based on the Process-Person-Context-Time model (Bronfenbrenner & Morris, 2006), various strategies employed by families in the creating, modifying or upholding of behaviours that may strengthen SOC and in doing so lead to the enhanced wellbeing of adolescents. The key findings (Table 5.1) discussed in this chapter are:

Table 5.1: Key study findings

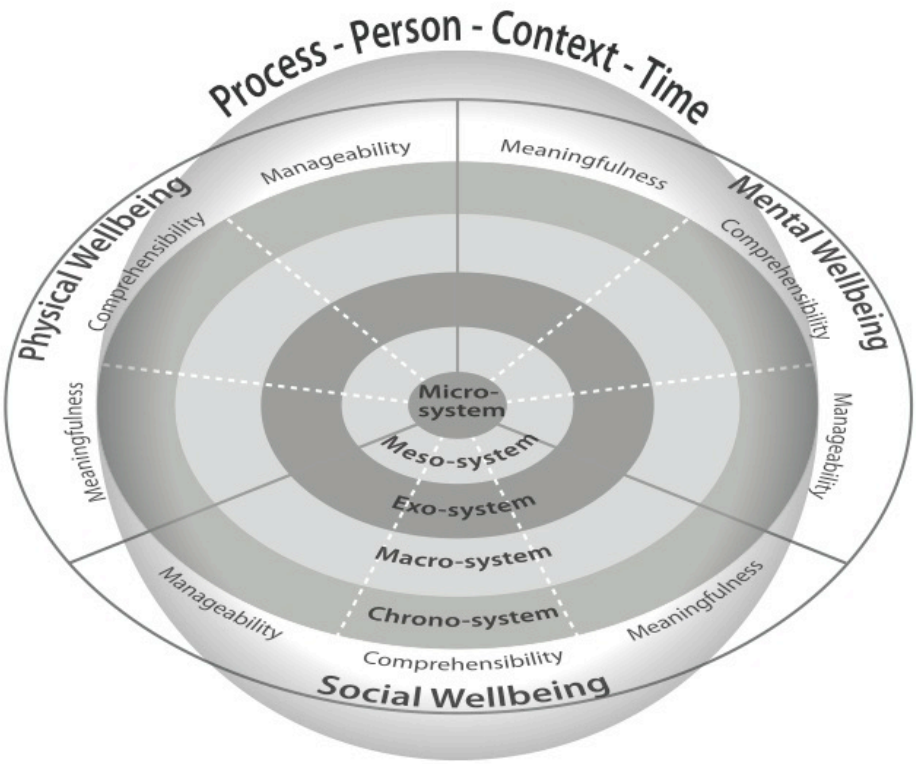
	Key study findings
1	Developmental processes of SOC take place in several environments of development simultaneously, with each of these environments providing diverse contexts for complex non-linear and overlapping processes influencing social, physical and mental dimensions of wellbeing. It is however not the contexts of development that were the most crucial factors influencing SOC but rather the processes that took place within these contexts.
2	The family is a major resource in the life of a developing child. Family factors and processes found influencing the development of Sense of Coherence were perceived as either internal; consisting of family structure, family processes, communication, lifestyle choices and patterns, and family culture, or external; the immediate environment, economic resources, and culture.
3	Experiencing a sense of connectedness and caretaking from the family underpinned all factors and processes found to be important for the health and wellbeing of adolescents and seemed to promote the development of SOC.
4	There is a reciprocal relationship between SOFC and SOC and a strong SOFC can be perceived as a GRR promoting the development of a strong SOC, therefore promoting adolescent wellbeing.
5	Individuals with strong SOC scores and families with strong SOFC scores voiced an understanding of beliefs, facts and values deemed important for health and wellbeing, as well as gave insight into what actions are needed and should therefore be taken when aiming at promoting the health and wellbeing of adolescents. This can be interpreted as individuals and families with strong SOC scores having good health literacy skills. As the findings have suggested that the relationship between SOC and SOFC is reciprocal with a strong SOFC promoting the development of a strong SOC, it is feasible to view a strong SOC as both a creator of and a result of good health literacy skills.

5.2 A framework for understanding the development of SOC

The development of SOC is difficult to discuss using a linear approach as many processes and factors, internal and external, influencing SOC are interweaved taking place over a long period of time. In Section 2.8 Bronfenbrenner's (1979) ecological model of human development was used to discuss the development of SOC. However, the combined findings from this study suggest that the further developed Process-Person-Context-Time model (PPCT) by Bronfenbrenner & Morris (2006) would be more suitable than the original model to showcase and discuss the development of SOC as the PPCT-model: 1) focuses on proximal processes, 2) shows how these processes are influenced by characteristics of the individuals, 3) and the context in which they occur and finally, 4) shows how they are connected to relevant developmental outcomes.

A framework (Figure 5.1) illustrating the components and contexts influencing the developmental processes of SOC was constructed using an amalgamation of perspectives from Bronfenbrenner & Morris' (2006) Process-Person-Context-Time model (PPCT) and Antonovsky's (1979; 1987) salutogenic framework for health, although in this model the concept health has been replaced by the concept wellbeing.

Figure 5.1: A framework for understanding the development of Sense of Coherence



The framework combines the components of SOC (*comprehensibility, meaningfulness and manageability*) with the environments of development (*micro-, meso-, exo-, macro- and chrono-systems*) and then finally with three dimensions of wellbeing (*social, physical and mental*). Thus it provides a means of acquiring a clearer and more in-depth understanding of the complex pathways that exist in developing a strong SOC. The framework also offers a structure to view how family life, as a health-promoting process and a context, is associated with the positive development of SOC in adolescents thus enhancing the health and wellbeing of adolescents.

This mixed method study generated plenty of findings that were intrinsically bound together. This means that when discussing one aspect of findings it inevitably touches upon another. In order to present the findings in a comprehensive manner the findings are discussed and contextualized using the framework as a guide. The key findings will be discussed in subchapters of *Process-Person-Context-Time*. Findings related to relationships and family routines affecting the development of SOC are discussed in the *Process* subchapter. Findings related to how characteristics, such as gender and age, may influence the development of SOC are discussed in the *Person* subchapter. Findings related to the relationship between a strong SOC and health literacy are discussed in the *Context* subchapter. Findings related to the effect the concept time has on the development of SOC and findings related to the reciprocal relationship between SOC and SOFC are discussed in the *Time* subchapter.

5.2.1 Process

One key finding in this study was that the majority of adolescents and parents claimed that experiencing a sense of connectedness with and caretaking from the family were important factors contributing to adolescent wellbeing. This was found to be particularly true for adolescents in possession of strong SOC scores. Previous research suggests that that connectedness serves as a protective function for adolescent health (Blum, 2003; 2005; Blum & Libbey, 2004; Barber & Schluterman, 2008; McNeely *et al.,* 2002; McNeely & Falci, 2004; Resnick, 2005; 2007). It has also been suggested that family connectedness is for adolescents one of the most powerful protective factors against risk factors detrimental to wellbeing (Resnick *et al.,* 1993). This study found a positive association between adolescents with strong SOC scores and feeling connected to family. Adolescents expressed family connectedness*,* as a feeling of being cared for, feeling loved, sensing closeness with and having a feeling of belonging to one's family. Antonovsky (1987) and Näsman (1998) claim it is the family, as the primary socialization unit for the majority of children and

adolescents that provides the first experiences that promote the developmental processes of SOC. García-Moya *et al.* (2013) state that it is specifically the quality of parent-child relationships that is the most influential factor on adolescent SOC. Findings derived solely from quantitative data indicated that family structure did not make a difference in how adolescents felt connected to family, or that it was related to the strength of adolescents' SOC scores. Indeed, it seemed that it was possible to experience a feeling of connectedness and have a high SOC score despite living apart from one of your parents. However, the mixed method findings derived from the 18 families suggested that it was not only quality of parent-child relationships that had an effect on SOC. Living with both parents in the same home was found to be a better protection against a decline in adolescent SOC scores than living with parents on an alternating basis. This echoes Honkinen *et al.*'s (2008) findings that adolescents living with both biological parents tend to have a stronger SOC than others. Antonovsky & Sagy (1986) observed that emotional closeness in adolescent-parent relations is related to a high SOC because close relations to parents generally result in good relations to self. More recent research has found that adolescents who experience closeness and connectedness with their families are in possession of a stronger SOC than adolescents who perceive their family life as isolated, chaotic and filled with conflicts (Cederblad & Hansson, 1996).

A positive association was found, in this study, between adolescents' SOC and fathers' SOC scores, specifically between boys with strong SOC scores and fathers with strong SOC scores. These findings were similar to that of a study, which compared adolescents' and mothers' SOC in Japan and that concluded that parental SOC had an effect on adolescent SOC (Togari *et al.,* 2012). In this study adolescents in possession of strong SOC scores were associated with belonging to families with strong SOFC scores. There was also a significant positive correlation found between adolescent SOC scores and SOFC scores, which was particularly true for adolescents with strong SOC scores. These findings support Antonovsky's (1987) notion that parents in possession of strong SOC will most likely provide support and facilitate the use of resources available to them and with that raise children who accrue life experiences that promote the development of a strong SOC. According to Antonovsky (1987) there is an expected correlation between the individual SOC and the collective SOC it inhabits, in other words the family. However, that correlation does not need to be perfect as individuals may feel that the world is for them personally not predictable, manageable and meaningful even if they believe it is from the perspective of the collective.

During adolescence there is an increase of social relationships outside the family. Findings from this study revealed that adolescents considered supportive relationships with members of the extended family and adults involved in their education and leisure activities as important for wellbeing. It may be that connectedness found through non-familial supportive adult relationships in the community is linked to the wellbeing and healthy development of children and adolescents as previous research has suggested (Baumeister & Leary, 1995; Resnick, 2000; Catalano *et al*., 2004; Thompson *et al*., 2006; Whitlock, 2007). Important contexts influencing development during adolescence are the school environment and peer relationships (Whitlock, 2006; Eccles & Roeser, 2009; 2011). Findings from this study showed an association between strong SOC scores and feeling connected to school. However, a decrease in feeling connected to school was linked to a decrease in the adolescents' SOC mean scores. Findings revealed that feeling strongly connected to school decreased simultaneously as worrying about school related issues increased. Previous research has shown that school connectedness has a positive impact on wellbeing (Anderman, 2002; Gillison *et al.,* 2008; Jose *et al*., 2012) and that lower levels of school connectedness are associated with depressive symptoms in adolescents (Shochet *et al.,* 2006). According to Jose *et al.* (2012) family and school connectedness are more strongly associated with wellbeing than peer or community connectedness are. However, in this study the majority of respondents mentioned peer connectedness as one of the most important factors influencing wellbeing. Parents with strong SOC scores emphasized how the quality of peer relationships influenced wellbeing and specifically mentioned the importance of relationships with trustworthy peers for adolescent wellbeing. The findings also suggest that parents are aware of the influence that other adolescents have on their child's health related behaviours, which resonates with previous research findings that peer connectedness is both a strong predictor of wellbeing (McGraw *et al.,* 2008) and positively associated with risk-taking (Karcher, 2000; Karcher & Finn, 2005).

It is not only long lasting and relatively regularly occurring relationships that are significant for an individual's development. Healthy lifestyles and behaviours are acquired through interpersonal relationships that affect health related attitudes, knowledge and skills (Paek *et al.,* 2011). This study suggests that feelings of belonging and a sense of identity, for both the adolescent and the family, are created through family routines. This resonates with Bronfenbrenner & Morris's (1998) assertion that proximal processes in the form of everyday events and activities influence and promote child and adolescent development by increasing an individual's understanding of the world and his/her place in it. The study findings revealed that belonging to a family with a strong SOFC score is good for adolescents' health. It would seem that proximal processes such as the family's health related behaviours and

routines can affect the development of SOC and adolescent wellbeing in several ways, including providing role models and facilitating a healthy or unhealthy physical and social environment. The majority of adolescents with strong SOC scores recognised the role parents had in promoting adolescent health. Adolescents said that parents provided them with a healthy diet, gave them emotional support during difficult times, and broadened their social networks through organized social events with friends and relatives, and enabling partaking in events in the community.

Close relationships, good communication, acting as responsible role models in health related issues and establishing health-promoting routines were considered by parents with strong SOC scores to be important for promoting health and wellbeing in adolescents. The findings showed that the most common everyday routine mentioned by adolescents and parents was participation in shared daily mealtimes. The majority of adolescents in this study with strong SOC scores said they participated in daily in family meals. Previous research has shown that the benefits of shared family meals may apply to several health domains (Eisenberg *et al.,* 2004) and be related to higher levels of positive youth development (Zarrett & Lerner, 2008). Parental eating behaviours have been found to have a positive influence on dietary behaviours of children and adolescents (Pearson *et al.,* 2009). Studies conducted in Finland have found that parental SOC has an impact on the pattern of food intake of Finnish children and that parents with a weaker SOC were associated with children's unhealthier eating patterns (Ray *et al.*, 2009). Swedish-speaking Finnish adolescents are somewhat healthier in terms of dietary habits associated with the family than Finnish speaking adolescents (Roos *et al.,* 2012). This is interesting in the light of previous research showing that the SOC of the Swedish speaking population in Finland is slightly higher than that of the Finnish speaking population (Volanen *et al.*, 2006; 2007). This may indicate that participation in shared daily mealtimes is a factor related to the family culture of Swedish-speaking Finns that contributes to the development of a strong SOC in adolescents. The findings from this study also suggested that participation in shared mealtimes not only provided a forum for parents to model good dietary behaviours but provided an opportunity for enhanced intergenerational dialogue.

Both adolescents and parents with strong SOC scores claimed a functioning dialogue was a key factor in promoting an atmosphere of openness in the family, which in turn was believed to foster trust between parents and adolescents. The majority of adolescents with a strong SOC score mentioned trust in connection with an open atmosphere at home and said that trust was shown through willingness to negotiate agreements between adolescents and parents. In contrast, adolescents with weak SOC scores often mentioned a lack of trust as

being present in the family, claiming that agreements were most often non-negotiable. Previous research has shown that adolescents who perceive having strong mutual trust and engage in negotiated agreements with parents are less likely to engage in high-risk behaviours (Kerr *et al.,* 1999). However, this seems to have a higher effect on adolescent females than males (Borawski *et al.,* 2003). Previous research has also shown that routines such as participation in shared mealtimes may for many adolescents provide a source of stability and consequently help in facilitating adolescents' capability of emotional regulation as well as ability to develop a strong self-esteem (Fiese *et al.,* 2006). Children and adolescents are less likely to participate in risk behaviours if they experience familiarity of routines that reduce feelings of anxiety (Bennet *et al.,* 1988; Fiese, 1992; 2007). Sagy & Antonovsky (2000) hypothesized that life experiences related to consistency, such as perceiving that the family has a clear value system with rules and regulations and that there is order and structure in the family environment, contribute to the development of the SOC. They believed that consistency was an important factor influencing the development of comprehensibility, although they found no evidence supporting this hypothesis. However, findings from this study indicate that a relationship between consistency and the development of SOC does exist, as the findings suggest that experiencing stability and consistency in family routines is a resource promoting the development of SOC.

5.2.2 Person

The study findings suggest that a person's SOC can be considered as both a force and a resource characteristic (explained in chapter 2.7). Force characteristics are conceived as behavioural dispositions that both set in motion and sustain the operation of proximal processes whilst resource characteristics are conceived as characteristics that relate to mental and emotional resources such as past experiences, skills and intelligence as well as to social and material resources skills. Force and resource characteristics can be compared to General Resistance Resources (GRRs) within the salutogenic framework.

The findings suggest that individuals with strong SOC scores had, more often than individuals with weak SOC scores, active stress management strategies that had an impact on both self and family. These strategies included making health influencing lifestyle changes, increasing exercise, spending more time with family, prioritizing, time management and adopting a positive mental attitude towards stressors. Antonovsky (1987; 1992; 1996) claimed that a person with a strong SOC will attempt to gain insight into the nature of the confronting stressor, perhaps even consider it as a challenge, then choose and use the

appropriate coping or resistance resource needed for the specific situation and finally be receptive and flexible if the situation demands modification of behaviour. Children are active beings and according to Antonovsky (1987) function as important reciprocal socialization agents in the family, shaping outcomes important for *meaningfulness* through their behaviour. Therefore it is conceivable that a strong SOC in adolescents could function as both a force characteristic and a resource characteristic affecting the SOFC.

Gender and age can be perceived as demand characteristics (see chapter 2.7) that have an impact on the development of SOC. In this study both strong and weak SOC scores were prevalent in both genders of adolescents. Despite SOC scores being highly individual, boys were found to be in possession of a stronger SOC mean score than girls throughout the study. This is congruent with findings from several studies (Antonovskys & Sagy, 1986; Cederblad & Hansson, 1996; Myrin & Lagerström, 2006; 2008; Nielsen & Hansson, 2007; Honkinen *et al.,* 2008; Simonsson *et al.,* 2008). Antonovsky & Sagy (1986) have stated that individual SOC increases in strength during adolescence. The findings from this study however, showed a decline in adolescent total mean SOC scores between *waves I* and *III*, with girls having a greater decline in SOC scores than boys. Girls enter puberty on average two years earlier than boys (Archibald *et al.,* 2005). This could in this study account for differences in findings related to SOC levels and gender, and would also support García-Moya *et al.'s* (2012) speculation that boys and girls may have different patterns in the development of SOC.

Parents' SOC scores remained relatively stable throughout this study. However between *Waves I and III* there was a slight decrease in the mean scores of mothers with weak SOC scores and an increase in the mean scores of fathers with strong SOC scores. These findings support Antonovsky (1979; 1987) claim that small changes will occur in SOC throughout the life course, as he predicted that a weak SOC could be weakened and a strong SOC remain stable due to changes in the availability of Generalized Resistance Resources or an increase of stress. Therefore, it may be that family stress accounted for the fluctuation in the SOC scores of parents and adolescents. Stress is greatest during transitional points in the family developmental process (Carter & McGoldrick, 2005) and it is feasible that adolescence can be perceived as a collective stressor affecting all family members. The findings from this study also showed very little difference in mean SOC scores between mothers and fathers, supporting Volanen's (2011) finding that in Finland SOC seems to be relatively gender neutral. These findings are however contradictory to findings from most studies that have reported a stronger SOC score in men than in women (Larsson & Kallenberg, 1996; Suominen *et al.,* 1999; Eriksson, 2007). In this study there was however no differences in

either quality or quantity of resources reported by girls and boys, mothers and fathers or strong and weak SOC scores. The findings suggest that during early and middle adolescence boys have a stronger SOC than girls. Yet in Finland adult SOC has been found to be relatively gender neutral. This raises the question of what processes and factors increase the level of SOC in females or decrease the levels of SOC in males, and at what point in the life course does this takes place? Another question is if gender neutral SOC may be related to Finnish culture?

5.2.3 Context

The findings suggest that developmental processes of SOC take place in several environments of development simultaneously, with each of these environments providing diverse contexts for complex non-linear and overlapping processes influencing social, physical and mental dimensions of wellbeing. The study findings indicated that family life, as both process and context, is the main setting where processes influencing the development of adolescent SOC take place. It is however important to acknowledge that the family, and family life itself, is influenced and shaped by bidirectional processes taking place in other contexts and that these processes can have a direct or indirect effect on shaping both individual SOC and the SOFC. Antonovsky (1987) and Näsman (1998) stated that it is the family, as the primary socialization unit for the majority of children and adolescents, which provides the first experiences that promote the developmental processes of SOC. In this study it was individuals with strong SOC scores and families with strong SOFC scores that voiced an understanding (*comprehensibility*) of beliefs, facts and values deemed important for health and wellbeing (*meaningfulness*), as well as gave insight into what actions are needed and should therefore be taken (*manageability*) when aiming at promoting the health and wellbeing of adolescents. This can be interpreted as individuals and families with strong SOC scores having good health literacy skills. This was an unexpected finding, as the study did not set out to investigate health literacy.

Nutbeam's (2000) health literacy model consisting of *'functional, interactive and critical levels of literacy'* provides a pathway to view how study findings related to health literacy and developmental processes of SOC can be viewed in different contexts. Functional literacy can be perceived as having the basic cognitive ability to read and write and function in daily circumstances, thus the educational system plays an important role in the development of these skills (Nutbeam, 2000). The study findings suggest that after the family, the educational system was the second most important context affecting the developmental processes of SOC. A positive association was found in this study between the possession of a

strong SOC and experiencing connectedness to school. The findings revealed that adolescents with strong SOC scores who felt strongly connected to school claimed to lead healthy lifestyles, worried less about their body image and dieting and also had better stress managing skills. There is plenty of research strongly linking education to health and health determinants (Marmot, 2002; Feinstein *et al.,* 2004; Lahema *et al.,* 2004). It is feasible that the combination of a strong SOC and experiencing connectedness to school promotes school related activity, which in turn may have an effect on functional literacy, both in general and related to health literacy. The majority of respondents perceived a good educational system as a resource and many mentioned the importance that education has for future life. Both parents and adolescents with strong SOC scores said it was important to get good grades in order to continue with further education and consequently get a job that would provide financial wellbeing. Almost all parents, and several adolescents, mentioned the financial stability and security employment provided. Having a job, preferably one that was satisfying was also considered important for wellbeing by individuals with a strong SOC score. Several parents who experienced either unemployment or uncertain and stressful situations at work showed a decrease in SOC scores. The majority of the adolescents of these parents also showed a decrease in SOC scores, stating that they worried about their parents' employment situation as well as about the financial situation of the family. These findings support Antonovsky's (1987) argument that the social position of the family and the family's financial situation influence the development of SOC in childhood and adolescence.

Interactive literacy involves using cognitive functional literacy skills together with meaningful social and communicative skills to actively participate in daily life in the microsystem and through this participation gain knowledge that can be applied to new situations (Nutbeam, 2000). The findings suggest that it is interaction within the family that models and teaches healthy behaviours. Parents with strong SOC scores were aware of the importance of family as a health socialization unit and claimed that they as parents function as positive role models for adolescents in health related issues. It is feasible that families with a strong SOFC may have a discourse of health that creates and supports health literacy skills in adolescents, which may ultimately strengthen the SOC of adolescents. According to Stamp (2004) families collectively construct a family identity through interaction and dialogue. One everyday action that most families do is reminiscing about past experiences and family life (Fivush, 2008). Bietti (2010) claims that a shared life-story, family conversations and shared memories are used to create a feeling of connection and maintain a feeling of shared group identity. As mentioned earlier, in subchapter 5.2.2, individuals with strong SOC scores experienced a sense of connectedness and caretaking from the family as important factors contributing to adolescent wellbeing. Sagy and Antonovsky (2000) claim

that experiencing emotional closeness influences the component meaningfulness of SOC. It is feasible that a family's emotional ties intensify bonding, thus acting as a resource promoting the development of a strong SOC, which in turn acts as a reciprocal resource promoting the development of good health literacy skills, thus promoting good health. This would support research findings suggesting that health literate individuals are able to, through acquired skills and informed choices related to health behaviours, take responsibility for their own health (Nutbeam, 1998; Kickbusch & Maag, 2008; Paakkari & Paakkari, 2012), as well as their families and even their community's health (Sørensen *et al.*, 2012).

The study findings found the respondents' mean SOC scores to be slightly higher than that of the Finnish speaking population. This study was conducted in Finland and the majority of participants were Swedish-speaking Finns who are a minority group with their own culture within the Finnish culture. Previous research has suggested that the health of the Swedish speaking population in Finland is better than that of the Finnish speaking population (Suominen *et al.,* 2000; Hyyppä & Mäki, 2001; Saarela & Finnäs, 2003; Volanen *et al.,* 2006; 2007; Nyqvist, 2009). There are several studies conducted with Finnish schoolchildren that mirror the results of the adult population's health (Suominen *et al.,* 2000; Kannas & Brunell, 2000; Saarela & Finnäs, 2004). One tentative explanation for this could be, as both Fiese (1992) and Viere (2001) have suggested, that cultural and normative information, as well as beliefs and values, are transmitted across generations through social interaction and rituals within the family. According to Mancuso (2008) contextual and cultural dimensions are important in obtaining competencies relevant to health and health literacy. Families and the individuals therein, are affected by social conditions, cultural values, national customs, economic patterns and legislative policies of the context they live in. The study findings showed that both adolescents and parents identified traditions as having an influence on their wellbeing. Hyyppä & Mäki (1997) have speculated that internalization of cultural and personal histories of the Swedish-speaking Finns have resulted in differences found in how they perceive their world compared to Finnish-speaking Finns, and that these differences may later in life result in better health for the Swedish-speaking Finns. This resonates with the conclusion from a literature review of Antonovsky's writings by Benz *et al.* (2014 p.16) claiming that Antonovsky identified culture as a factor playing a role in the salutogenic theory and the development of SOC through:

> *(a) shaping life situations; (b) giving rise to stressors and resources; (c) contributing to life experiences of predictability, load balance and meaningful roles; (d) facilitating the development of the sense of coherence and (e) shaping perceptions of health and well-being.*

The final level of health literacy, critical literacy (Nutbeam, 2000), concerns the ability to critically evaluate information and through this have greater control over one's life, thus promoting the development of autonomy in adolescence. Research has suggested that adolescents want close relationships with parents and rely on them for guidance and support, whilst they at the same time strive for autonomy (Ungar, 2004). In this study it was individuals with strong SOC scores that claimed that both support from parents and dialogue between adolescents and parents are vital for adolescent wellbeing. The majority of respondents stated that a well functioning dialogue promoted an atmosphere of openness in the family, which in turn fostered trust between parents and adolescents. Adolescents with a strong SOC claimed that trust was shown through negotiating agreements with their parents. In contrast, adolescents with weak SOC mentioned a lack of trust as being present in the family, claiming that agreements were most often non-negotiable. Kwon *et al.* (2013) suggest that supportive parenting will promote adolescent autonomy, which in turn will promote health-promoting behaviours. Achieving independence and autonomy takes place through continuous negotiation between parents and adolescents (Allen *et al.,* 1994). Research has shown that adolescents who engage in negotiated agreements with parents and perceive having strong mutual trust are less likely to engage in high-risk behaviours (Kerr *et al.,* 1999).

The study findings revealed that several girls with weak SOC scores used social media as a means to manage stress. In adolescence individual traits (such as age, and media use) combined with family and peer influences within a variety of systems (health, school, and mass media) are believed to influence health literacy, which in turn influences health behaviours (Manganello, 2008). Media literacy as a skill derived from critical literacy becomes especially important in adolescence, as the majority of adolescents in western society are frequent users of social media (Kaiser Family Foundation, 2010). In this study girls with weak SOC scores had lower self-esteem scores, more negative perceptions of their body image and felt they needed to diet more often than adolescents with strong SOC scores. Previous research has shown that girls are at an early age held to an unrealistic standard of physical attractiveness and that dissatisfaction with one's body image starts between the age of 13 to 15 with a higher per cent of females being dissatisfied (APA, 2010). Body image is according to Croll (2005 p.155) a *'dynamic perception of one's body that can change in relation to mood, physical experience and environment'.* It is therefore possible that social and cultural influences messaged through the media can, in adolescents with weak SOC scores, lead to an increase in adolescent body image concerns. These findings could indicate that adolescents with weak SOC scores have poorer media literacy skills and are more

susceptive to negative influences of health related information available on social media (Seidenberg *et al.,* 2012; Shabbir *et al.,* 2013) than girls with strong SOC scores.

The study findings have suggested that the relationship between SOC and SOFC is reciprocal with a strong SOFC promoting the development of a strong SOC. It is therefore feasible to suggest that a strong SOC could both a creator of and a result of good health literacy skills. Antonovsky (1979; 1987) claimed (see chapter 2.6.1) that individuals with a strong SOC would most likely find motivation to cope (meaningfulness), have the ability to understand the challenges of everyday life (comprehensibility) and also have confidence in the availability of resources to help cope with the situation (manageability). It is conceivable that a reciprocal relationship exists between the levels of literacy and the subcomponents of SOC: between functional literacy and comprehensibility, between interactive literacy and meaningfulness, and between critical literacy and manageability. Both a strong SOC and good health literacy skills provide developmental strengthening experiences leading to improved health and both are the result of psychological, social, cultural situations and conditions found in a variety of contexts.

5.2.4 Time

Time is perceived time as past, present and future. This study, through using a longitudinal integrative mixed methods design, allowed for insight into the development of adolescent SOC during a three year period of early adolescence. The findings suggest that developmental processes of SOC take place over a long period of time and in several environments of development simultaneously. The findings also suggest there is a reciprocal relationship between SOFC and SOC and that a strong SOFC can be perceived as a GRR that over time promotes the development of a strong SOC, thus promoting adolescent wellbeing. In this study, time was mentioned and observed directly and indirectly, by respondents as a factor influencing contexts and processes in different ways.

Time plays a vital role in the PPCT-model (see chapter 2.7) and is divided into *'micro-, meso- and macrotime'.* Micro-time refers to the continuity or discontinuity of specific activities or on going proximal processes (Bronfenbrenner & Morris, 2006). In this study several examples of data findings highlighted the importance of micro-time. The study findings indicate that time spent together as a family was perceived, by the majority of respondents, as important for wellbeing. Several parents stated that a heavy workload had a negative impact on the amount of time they had to spend with their children. Individuals with strong SOC scores claimed that maintaining a balance between family life and work and/or school was important for wellbeing, and several respondents stated they felt they

needed more time in order to achieve such a balance. Several parents and adolescents stated that they did not have enough time to complete daily tasks and this led to stress and a feeling of diminished wellbeing. Individuals with strong SOC scores had, more often than individuals with weak SOC scores, active stress management strategies related to time. Individuals with strong SOC scores stated that they had good time management skills and would prioritize tasks in order to avoid stress and they also stated that when they felt stressed they chose to spend more time with family as this relaxed them. Spending time together as a family was believed to enhance intergenerational communication. Individuals with strong SOC scores stated that continuous communication would lead to good child-parent relationships, which in turn would promote adolescent wellbeing. It is feasible that parents communicate positive stress management strategies to adolescents using interactive health literacy skills in proximal processes.

Meso-time refers to the extent and consistency of proximal processes occurring during longer periods (Bronfenbrenner & Morris, 2006). The findings showed that many adolescents perceived shared mealtimes and food related activities in conjunction with holidays an important way to spend time with family, especially if there had been changes in the family constellation. A study by Compañ *et al.* (2002) found that adolescents, in families who share family meals as well as celebrate family rituals together such as birthdays and holidays, are more satisfied with family life. Findings from this study demonstrated that adolescents experiencing consistency in family processes over time despite living in two homes were more content with family relationships and had better SOC scores than adolescents living in two homes who reported inconsistency in family processes. These findings suggest that shared family mealtimes may serve as an important forum and means of providing emotional intergenerational consistency over time.

Macro-time refers to changing events in larger society. Developmental processes are likely to vary according to specific historical events that take place in the individuals' lives during different stages of development (Bronfenbrenner & Morris, 2006). The study findings indicate that the development of adolescent SOC is influenced and determined by prior life experiences, especially life experiences that take place in the context of the family. The family's social and cultural experiences give meaning and understanding to events and situations the family may encounter. A family may develop a narrative about itself derived from ancestral history passed down through generations. This narrative can have a powerful impact on the family's functioning. The ways in how families and its individual members cope with their lives are not based on objective or true views of reality, but rather on family social constructions – unchallenged views of reality created and re-created in conversation

with one another, possibly for generations (Dallos & Draper, 2000; Goldenberg & Goldenberg, 2004). This family narrative may facilitate in constructing and shaping a shared coherent family view of the world, i.e. a Sense of Family Coherence (SOFC). Hanson (2010) claims that the present Sense of Coherence is influenced by the past, and the future Sense of Coherence is affected by choices made in the present. The study findings suggest the relationship between SOC and SOFC is reciprocal, and that a strong SOFC promotes the development of a strong SOC in adolescents. This finding supports Vinje & Mittelmark (2006) claim that SOC could be seen as both a resource for and product of lived experiences.

5.3 Chapter summary

The purpose of this chapter was to discuss the study findings in relation to the literature. This was achieved by critically reflecting on the concepts SOC and SOFC as well as by exploring determinants related to the developmental process of SOC in adolescents. The next chapter draws conclusions regarding the research questions, discusses implications for policy and practice and how the study contributes to existing body of scholarly knowledge. It also acknowledges the study's strengths and limitations and gives suggestions for future research.

Chapter Six – Conclusions and Recommendations

6.1 Introduction

The previous chapter discussed the study findings. This concluding chapter starts by highlighting the aims and main findings of the study in order to consider its contribution to furthering knowledge, implications and recommendations for policy and practice, strengths and limitations of the study and possible directions for future research.

A great deal of research has been conducted within the research fields of family health and salutogenesis, however gaps in knowledge exist and there have been several calls for additional research. The main purpose of the study was to explore the SOC in a sample of Swedish-speaking Finnish adolescents and their parents, as well as the Sense of Coherence found in the family (SOFC). It aimed to gain an in-depth understanding of individual and contextual factors related to family life that are associated with SOC and that could be attributed to differences in the strength of SOC and therefore be relevant to the development of the SOC. The study aims were met by employing a longitudinal integrative mixed methods research design.

Findings generated from quantitative analysis of data showed an association between adolescents' SOC scores and SOFC scores, particularly for adolescents in possession of a strong SOC score. Findings suggest that the relationship between SOC and SOFC is reciprocal and that a strong SOFC can be perceived as a GRR promoting the development of a strong SOC, therefore promoting adolescent wellbeing. Families in possession of strong SOFC scores had a positive effect on the development of SOC in adolescents, especially for adolescents in possession of weak SOC scores. Families in possession of weak SOFC scores had a negative effect on the development of SOC in adolescents. Findings generated from the analysis of qualitative data showed that developmental processes of SOC take place in several environments of development simultaneously, with each of these environments providing diverse contexts for complex non-linear and overlapping processes influencing social, physical and mental dimensions of wellbeing. It is however not the contexts of development that were the most crucial factors influencing SOC but rather the processes that took place within these contexts.

The findings indicated that the family is a major resource in the life of a developing child. Family factors and processes found influencing the development of Sense of Coherence were perceived as either internal; consisting of family structure, family processes, communication, lifestyle choices and patterns, and family culture, or external; the immediate environment,

economic resources, and culture. Findings from the mixed methods data analysis showed that individuals with strong SOC scores and families with strong SOFC scores voiced an understanding of beliefs, facts and values deemed important for health and wellbeing. Findings also gave insight into what actions are needed and should be taken when aiming at promoting the health and wellbeing of adolescents. This could possibly be interpreted as individuals and families with strong SOC scores having good health literacy skills. This was an unexpected finding, as the study did not set out to investigate health literacy.

6.2 Contribution to knowledge

The findings from this study add to the body of knowledge of the sparsely researched area of a collective SOC. This study has provided a forum for adolescents and their parents to share knowledge about factors and processes, found in the context of contemporary families, that influence the development of SOC, especially of factors and processes that might assist in forming a strong SOC. Antonovsky (1987) and Sagy & Antonovsky (2000) argued that childhood living conditions are important for the development of SOC and advocated for complementary research to further the understanding of what factors may contribute to life experiences that influence the developmental process of SOC. Very few studies have looked at the family as context for SOC development and the processes that affect adolescent health and wellbeing. Also, most previous research has focused on SOC and adolescent health and wellbeing as an endpoint ignoring the contexts adolescents inhabit and the influence these contexts have on processes involved in the development of a strong SOC.

This study adds to previous studies on how life experience components influence the development of adolescent SOC. Sagy & Antonovsky (2000) hypothesized that consistency, load balance, participation in shaping outcomes and emotional closeness would influence the development of SOC. In their study no relationship was found between the development of SOC and life experiences that were thought to be relevant to consistency. They concluded that this was due to the historical context as the study participants had been adolescents during World War II and a suggestion was made that in a different society and during other circumstances results could be different. Findings from this study showed that consistency was found to contribute to the development of SOC, particularly to a strong SOC, in adolescents. In this study, in a contemporary family context, family members described consistency as the upholding of family routines, rules and boundaries, and claimed that consistency was an important factor in supporting and promoting wellbeing.

There is limited research on health literacy in connection with the development of SOC. The findings from this study suggest that individuals with strong SOC scores and families with strong SOFC scores could be perceived as having good health literacy skills. The findings also suggest that the relationship between SOC and SOFC is reciprocal with a strong SOFC promoting the development of a strong SOC. It is therefore feasible that a strong SOC is both a creator of and a result of good health literacy skills. This study revealed that a reciprocal relationship exists between different levels of literacy and the subcomponents of SOC: between functional literacy and comprehensibility, between interactive literacy and meaningfulness, and between critical literacy and manageability. Both a strong SOC and good health literacy skills provide developmental strengthening experiences leading to improved health and both are the result of psychological, social, cultural situations and conditions found in a variety of contexts.

The study employed a mixed methods design whereas earlier studies studying family factors related to the development of adolescent SOC have primarily been retrospective studies or relied on second hand sources of quantitative data. The findings generated from the mixed method data suggest that the Process-Person-Context-Time model (PPCT) by Bronfenbrenner & Morris (1998; 2006) is a more suitable model than Bronfenbrenner's original model to explicate components and contexts influencing developmental processes of SOC as it: 1) focuses on proximal processes, 2) shows how they are influenced by characteristics of the individuals, 3) and the context in which they occur and finally, 4) shows how they are connected to relevant developmental outcomes. The relevance of this finding is that it shows that when using socio ecological models in public health arenas such as health education, health promotion and health psychology or health research, greater attention should be paid to the influences that intra- and interpersonal processes have on health and wellbeing.

6.3 Implications and recommendations for policy and practice

The study findings highlight some points of attention for policy and practice. The Ottawa Charter's (1986) definition of health as being:

> *'... created and lived by people within the settings of their everyday life; where they learn, work, play and love. Health is created by caring for oneself and others, by being able to take decisions and have control over one's life circumstances, and by ensuring that the society one lives in creates conditions that allow the attainment of health by all its members'*

presented the notion that health should be taken into account in all areas of decision making and policy. One of the areas of action identified in the Ottawa Charter (1986) was building healthy public policies. The term Health in All Policies (HiAP) has been used when referring to actions taken to incorporate health into public policies. The HiAP approach has been implemented worldwide with each country taking actions deemed appropriate for them (Leppo et al., 2013). Promoting the health of adolescents and their families requires the involvement of all sectors of society as policies affecting health care, health promotion and wellbeing of the family are found in many contexts. The life contexts outside the home that most families with children are involved in for several years are day care and school. This study was conducted in Finland with Swedish-speaking Finnish families in a Finnish life context. However, the research findings from this study can provide a common language and a supporting body of evidence that could be applied in policy and practice across different cultures and contexts.

Findings from this study suggest that SOC is reciprocal, with a strong SOFC promoting the development of a strong SOC in adolescents. The reciprocal relationship of SOC suggests that health-promoting policies for the family should be in place already when the child is young, as this would facilitate the building and maintaining of a strong SOC in parents that in turn will strengthen the SOC of the child. Individuals in possession of strong SOC scores were found to have an understanding (*comprehensability*) of factors, principles, and values deemed important for wellbeing (*meaningfulness*) and an insight into what actions are needed and should be taken (*manageability*) when promoting wellbeing that was likened to having health literacy skills. It is possible that implementation of the salutogenic theory within policy and practice supporting family wellbeing could improve health literacy skills of children, adolescents and families. Parents should be given the opportunity to have a say in and be heard on subjects that they feel are relevant and meaningful to the health and wellbeing of the family. Parent training and guidance should be aimed at increasing positive nurturing relationships, creating an understanding of factors that are relevant to the development of the child and the family, and at learning to identify resources available to them. Implementation of the salutogenic theory within health-promoting/educating policies could enhance the wellbeing of the child/adolescent and ultimately the whole family.

The school is a suitable setting for implementing strategies that could actively engage families in interventions and programs supporting adolescents. Student welfare services in school should aim at increasing information and communication between school and home, as cooperation between schools and families is a resource and imperative for the positive development of adolescent health and wellbeing. Maintaining a salutogenic dialogue with

family is vital, also in the school context, in order to create and enhance comprehensibility, meaningfulness and manageability. Parents should be given the opportunity to become familiar with the health promoting and wellbeing supporting culture and curriculum of the school their child attends. Furthermore, the findings suggest that the salutogenic theory should be taken into account when planning, developing and implementing education for social welfare and health care workers and teacher training. Health promotion and health education are terms that are often used interchangeably in school settings. In Finland health education and promotion are present throughout the entire education. In basic education the focus is on understanding health and wellbeing as physical, psychological and social capabilities, and developing skills in acquiring and applying health information as well as reflecting on values of health and wellbeing. In secondary education health has been defined in terms of physical, mental and social working and functional abilities, and health is studied through scientific and empirical knowledge (Välimaa *et al.,* 2008). The teaching of healthy behaviours is important but there should be an increased emphasis on the importance of supportive and caring social contacts, the promotion of a positive self-image and self-esteem, identification and utilization of resources, stress management and coping skills. Also, as findings show that adolescent boys were in possession of higher SOC scores than girls throughout the study a recommendation is that policymakers take into consideration gender differences when planning and implementing all policies and practices aimed at children, adolescents and their families.

Wollny *et al.* (2010) claim that research concerning wellbeing in the family context should focus on the entire family, not only the child, as data concerning family wellbeing will enhance understanding of the links between family functioning and outcomes. Evidence based data representing both subjective and objective dimensions of wellbeing, as well as data concerning factors influencing family wellbeing should be collected on several ecological levels as this would support policymakers in planning services and public policies affecting families. The findings suggest that adolescent health and wellbeing are created in the context of family interactions, processes and communication. The health and wellbeing of adolescents and their families is influenced by the amount of time a family is able to spend together. Many perceived the pace of today's society as hectic and stress inducing, claiming that not having enough time to spend with family was a stressor leading to ill health. Policymakers should take into consideration the importance of time spent together interacting in family life, when planning policies and practices. Policies and practices regulating overtime at work and the length of the school days could be a way to support families in being able to have more time together, thus enhancing the health and wellbeing of both adolescents and the family.

6.4 Strengths and limitations of the study

The current mixed method study has both strengths and limitations. Employing a mixed method study provides a logical link between qualitative and quantitative paradigms, thus allowing the researcher to use the methodology that best suits the different aims of the study. Combining methods may in some cases provide a better understanding than using just one research method (Creswell & Plano Clark, 2007). In this study the longitudinal integrative mixed method design allowed for insight into the development of SOC while the quantitative and qualitative methods provided data on individual and contextual factors related to family life that are associated with SOC and that could be attributed to differences in the strength of SOC. Employing mixed methods gave the study both breadth and depth to the analysis and gave a better sense of 'understanding the whole picture'. Combining several data collection strategies proved to be beneficial as this provided multi-layered data concerning family processes, the context in which they took place and the possible effect culture and time had on them.

My background as a family therapist in conjunction with my experience of working with adolescents proved to be an advantage as it enabled me to create a relaxed dialogue with the family and thus gather plenty of information in a short time. Another factor contributing to the relaxed dialogue was that all interviews were conducted in the homes of the respondents. Being in the home environment had both advantages and disadvantages. It was possible to use visual cues, such as family photos on the wall, to stimulate discussion on specific subjects if needed, but it also meant that the same visual cues were sometimes used to distract from the topic being discussed. Conducting the interviews in an uncontrolled environment meant that the interview situation was sometimes interrupted by the doorbell or the telephone ringing or by the adolescents wandering off to get something they wanted to show me, such as a photo album or a sports trophy. An attempt was made to use these 'distractions' as a positive opportunity to enable the collection of more data. The interviews together with eco-maps and genograms generated a great deal of data. The genograms provided data from several generations and it was possible to observe certain nuances and patterns in the data from them that the open-ended questions could not provide. The eco-maps generated in-depth data showing what processes took place in the different contexts and with which people.

The findings of this study should be considered within the following limitations. The majority of previous research conducted on the collective Sense of Coherence in the family has been retrospective, and information related to present day families is relatively scarce. The aim of this study was to explore the Sense of Coherence in contemporary adolescents

and families, as well as to examine, explore and identify factors related to the development of SOC, but not to generalize from the findings. The surveys used in this study were constructed by combining validated scales (such as SOC-13 and RSES) that have been used in previous research with adolescents, together with modified scales (the SCS), and ad-hoc scales (measuring GRRs and family connectedness) as well as open-ended questions. Blended questionnaires require thorough psychometric evaluation. In general previously validated scales are preferred to ad-hoc and modified scales, as they are deemed psychometrically sound (Furr, 2011). The use of blended surveys may increase the risk of inaccuracy of data interpretations, due to problems with reliability and validity, and this may in turn lead to compromised conclusions and the presentation of misleading findings. This study would have benefitted from enhanced scale construction procedures, such as principal components analysis of the ad-hoc and modified scales used in the study. Another limitation is the limitation of a PhD, where the research is conducted by the PhD candidate on their own. Therefore it was not possible for multiple researchers to repeat the data analysis independently in order to determine the extent of agreement between separate analyses. However, the credibility of the findings was discussed with my supervisors and within independent research groups at Folkhälsan and in Arcada.

Onwuegbuzie & Johnson (2006) claim that the assessment of validity in a mixed method study is complex, due to the problems of integrating qualitative and quantitative research. Sample selection and sample size may limit the type of statistical procedures that might be used and therefore the capacity to generalize to a larger population. The sample consisting of sixty-five students and eighteen families is not a big enough sample to generalize from. A larger sample size would have allowed for more advanced analytical methods giving greater validity to the results. It is however, not only sample size that is a limitation in generalizing from the findings. In this study the SOC scores of all adolescents were divided into categories consisting of strong or weak SOC despite Antonovsky's (1987) recommendation not to do so. Antonovsky (1987) wrote about high and low scores of SOC, as well as individuals being in possession of a strong or weak SOC. However, he never expressed what the level of a normal SOC should be. Eriksson (2007) suggests that this lack of 'normal' SOC is an uncertain factor that makes it difficult to compare study findings in salutogenic research. Research has shown differences in the level of SOC found in the populations of different countries. This study was conducted in Finland with participants from a minority group; it is therefore possible that knowledge generated from the findings cannot be transferred directly to another country or culture.

Sagy & Antonovsky (1992) claimed that a family's collective SOC is not identical to the SOC of its family members and cannot therefore be observed as clearly as the individual SOC. The collective Sense of Coherence may be seen as having a collective perception or 'worldview' of ideas and beliefs through which an individual interprets the world and interacts within it. Each person's 'worldview' is shaped reciprocally through thoughts, behaviour and interaction with others influenced by culture, beliefs, education, family, and experiences. Sagy and Antonovsky (1992) have suggested four alternative models to define the family as a unit or collective with either a strong or weak SOC. Each model will yield different, potentially biased, results when the collective SOC score is calculated. As earlier discussed in chapter 3.10, the chosen aggregation model of measuring SOFC could possibly result in a potential bias against single parent families or against families of which only one of two parents replied to the survey. It should also be pointed out that not all family members participated in the study. Therefore it is feasible that the findings concerning the collective SOC in the family could have been different if all family members' individual SOC scores were accounted for throughout all waves of the study.

It is important to understand the multitude of challenges that research with both adolescents and families present and how this may have an effect on the study findings. Research conducted with young people can be complex due to the wide variety of issues to be taken into consideration (Tinson, 2009). Adolescence is shaped by the social and cultural context it takes place in (Shaffer & Kipp, 2010). Adolescent development is complex and multidimensional, taking place in several domains. Factors from all levels of human organization (biological, psychological, behavioural, social, cultural, ecological and historical) are combined to influence the development course of human life (Damon & Lerner, 2008; Susman & Dorn, 2009). Adolescence as a period of development could have in this study both influenced the quality of responses in the surveys, as well as the sample commitment. Adolescents develop cognitively and socially at different rates and this may consequently have generated considerable differences in the quality of responses as well as their commitment to participate in the study over a three-year period. It is also possible that there was a potential bias by learning effect as surveys were administered with intervals of a year. Therefore students may have modified and improved their replies as a response to being aware of being studied. Differences in cognitive and social development, differences related to gender and differences in cultural influences may have influenced what adolescents were prepared to divulge and to what extent they wanted to engage in the study. A mixed methods study can be both beneficial and detrimental in family and adolescent research as it provides several forums for disclosure of information, both private and public. One benefit of a mixed methods approach, consisting of both surveys and interviews, is that

it can provide strong evidence for the interpretation of data and a more complete understanding of the data due to the shared meaning it helps create. On the other hand it may, especially during interviews, prevent some family members from disclosing information they do not want other family members to have access to.

Participation in the family interviews was low, and once the data were transcribed it became evident that one of the participants was easily identifiable. Therefore it was deemed unethical to use the data provided by the families. An effort to compensate for the loss of interview data was made by including more open-ended questions in *wave III*. The advantage of this was that surveys with open-ended questions allow for data to be collected from a greater number of families. However, the disadvantage was that these data were not as in-depth and nuanced as the data from the interviews. It is possible that the study would have benefitted from the integration of findings from family interviews, as much of the data generated from the interviews, eco-maps and genograms were related to cultural and historical influences on the development of SOC. It is possible to speculate that one of the reasons for the low participation in family interviews has to do with the Swedish speaking Finns being a minority group. As the Swedish-speaking community is quite small it is not unusual to encounter the so called "duck pond" phenomenon, e.g. when you meet up with a Swedish speaking stranger it is quite common to find that you are distant relatives, have common friends or know someone who went to the same school. The participants were ensured anonymity in the study. However, as family life has both common and distinctive elements it may be that families chose not to participate in interviews, as they were worried they might disclose information allowing for identification.

6.5 Recommendations for future research

This study has identified the following gaps that warrant further research: There is to date little research investigating factors related to adolescent health and wellbeing and the development of a strong SOC. A recommendation of this study is for an increase in multidisciplinary research on developmental processes of SOC as the study findings suggest that developmental processes of SOC take place in several environments of development simultaneously, with overlapping processes influencing social, physical and mental dimensions of wellbeing. Future research should preferably employ multiple methods such as qualitative individual and focus group interviews, ethnographic research and causal research. This would provide a broader understanding of the research focus, increase the value the research would have in several disciplines and facilitate in the mapping, planning and implementation of policies and strategies aimed at adolescents.

The study findings suggest that families with a strong SOFC have a discourse of health that creates and supports positive health literacy skills in adolescents, which may ultimately strengthen the adolescents SOC. As the findings have suggested that the relationship between SOC and SOFC is reciprocal with a strong SOFC promoting the development of a strong SOC, it is feasible to view a strong SOC as both a creator of and a result of good health literacy skills. A recommendation is that more qualitative research is conducted to further the understanding the role interpersonal relationships have as supportive environments fostering the positive development of SOC during adolescence.

Further research is also needed to understand the reciprocal relationship between health literacy and the developmental processes of SOC. Longitudinal qualitative research should be undertaken to map patterns of positive health literacy skills found in the family that support the positive development of SOC in adolescents.

In this study the respondents' mean SOC scores were found to be slightly higher than that of the Finnish speaking population. Previous research has suggested that the health of the Swedish speaking population in Finland is better than that of the Finnish speaking population. A recommendation is that comparative research be undertaken between Finnish-speaking and Swedish-speaking families examining possible similarities and differences between the discourse of health that creates and supports positive health literacy skills. Such a study would provide a better understanding of the relevance of underlying causes, such as language, culture, norms and health behaviours, impact on the development of SOC.

The findings suggest that during early and middle adolescence boys have a stronger SOC than girls. However, adult SOC was found to be relatively gender neutral. More research is needed to understand the role gender plays in the development of SOC, preferably longitudinal research that could give insight into gender related differences that occur during different stages of adolescence. A recommendation is that further research is undertaken to examine, which processes and factors increase the level of SOC in females or decrease the levels of SOC in males, and at what point in the life course does this take place. In addition further exploration of gender differences in health related awareness, decision-making and behaviour during adolescence is warranted as this could give insight into how gender differences are related to and have an effect on the development of health literacy skills.

In this study a model illustrating components and contexts influencing developmental processes of SOC was developed (page 166). It is recommended that further research be undertaken to expand on the model by examining the components and contexts further.

Ideally the data would be collected in all environments of family functioning and represent both objective and subjective dimensions of wellbeing.

6.6 Concluding remarks

This study has met the aims it set out to achieve. It has contributed to the understanding of which family life contexts and processes are associated with and attribute to the positive development of SOC. The findings from this study indicate that individuals with strong SOC scores and families with strong SOFC scores have what can be perceived as good health literacy skills. The findings have also suggested that the relationship between SOC and SOFC is reciprocal with a strong SOFC promoting the development of a strong SOC. It is therefore feasible that a strong SOC is both a creator of and a result of good health literacy skills. It is important to establish a bridge between research and policy. A salutogenic discourse of health, creating and supporting positive health literacy skills, should be implemented when planning and implementing policies and strategies aimed at promoting the health and wellbeing of adolescents and their families, leading to improved health and wellbeing.

Appendices

Appendix 1. Letter to teachers 2008

Hello!

Thank you for your participation in helping with the study. I need your help to distribute, collect and temporarily store some of the material. In order for you to be familiar with study I have put in your envelope a copy of the questionnaires and letters distributed to the families.

I have delivered 99 envelopes in plastic bags (A 19 + B 20 + C 20 + D 20 + E 20) to the school. There should be an envelope for each student. The envelopes are numbered. I wish that you will take a name list of the students, and when you hand out the envelopes write the number on the envelope next to the student's name. There are a few extra envelopes in the Teachers room in case you need them.

The list of student names and numbers you should give to the school nurse. She will keep the lists. This is so that I can contact her in case any of the students want me to contact the school nurse on their behalf.

I have instructed the students to return the questionnaires in the large envelope (sealed) to their teachers (that is if they are not being sent directly to me) and I hope that you can put them in the box that is in the teachers' room. I have asked the students to return them to school at the latest on Friday the 27th October and I intend to pick up the box in Monday the 29th in the afternoon. I hope you can remind the students or parents about returning the questionnaires on Friday and if they have forgotten, tell them that they can still bring them on Monday.

Feel free to contact me if you have questions. Thank you for your help.

Sincerely,

Pamela Mosley-Hänninen
xxxxxx @ folkhalsan.fi
040-xxxxxxxxx

Appendix 2. Cover letter 2008

Hello,

I am a researcher at Folkhälsan Research Center, in the Health Promotion research group, and I'm also studying for an MA in Health Promotion, at Laurea University of Applied Science in Espoo. I am currently doing research on the sense of coherence, families and eating disorders. I have this fall launched a research project to develop a resource-oriented model to better care for and treat adolescents with eating disorders and their families. My research focuses on youth and family resources, abilities and skills to cope with everyday life.

Sense of coherence is a multidimensional concept that is used to describe factors that contribute to health. It defines the extent to which a person has a lasting feeling that his life is structured, predictable and understandable, and that he has the resources necessary to meet the requirements of existence and that these provisions are deemed worthy to engage in. Sense of coherence develops in childhood. A strong sense of coherence is shaped by life experiences that help us understand what is happening to ourselves in our lives. A strong sense of coherence is associated with the feeling of coping with life and feeling good. There is a strong connection between sense of coherence and mental health.

I am intending to follow up a group of young people and their families throughout high school over a three-year period. I hope to gain insight into the family's sense of coherence and its impact on young people's own sense of coherence and also see if there is a connection between sense of coherence and the development of an eating disorder. I am particularly interested in families where there are eating disorders in the family.

With this letter I invite all students in XXXX School's seventh grade and their families to participate in this research. It is completely voluntary to participate, but I hope that you are in favour of doing so, as it is YOU who has the necessary information to make this study possible. Once the questionnaires are completed they can be posted to the researcher or returned to school at the latest on the 27th of October. You can withdraw from the study at any time. All responses will remain anonymous. Only the researcher and thesis supervisors can view the data.

The researcher cannot identify individual respondents. The school does not have access to any data. However, the school nurse can identify students by number as the respondents are offered the possibility for the researcher to contact the school nurse in case they think they have an eating disorder and wish for care. Research results will be presented so that no individual respondent or family can be identified.

Please contact me if you have any questions. I am happy to answer any questions in Finnish, Swedish or English.

Pamela Mosley-Hänninen
Researcher, Folkälsan Research Center, Program for Research in Health Promotion, Helsinki
pamela.mosley-hanninen@folkhalsan.fi
040-xxxxxxx

Appendix 3. Adolescent survey wave I

1. Gender ___ Girl ___ Boy

2. Year of birth_____ **3. Mother tongue_____**

4. Class 7A____ 7B____ 7C____ 7D____ 7E____

5. Height _____ **Weight _____**

6. How do you rate your health?
___Very good, ___Good, ___Mediocre, ___ Bad

7. Do you have any long-term illness or disability diagnosed by a doctor?
___ Yes, ___ No
If you answered yes, then what_____

8. Do you think you are…?
___Too skinny, ___a little skinny, ___fine, ___a little fat, ___too fat

9. Do you think you are…?
___Very good looking, ___good looking, ___average, ___ugly, ___very ugly

10. Are you following a special diet to lose weight?
__No, my weight is OK, __No, as I'm too skinny, __No, but I should lose weight, __Yes

11. Have you dieted in the past 12 months?
___No
___Yes, some days, ___Yes, for a week, ___Yes, longer than a week and less than a month,
___Yes, for a month, ___Yes, for more than one month but for less than 6 months,
___Yes, for 6 months or longer

12. Which option best describes your family's eating habits during SCHOOL DAYS?
___ No actual meal, everyone getting just something to eat
___ A hot meal, but the whole family does not eat at the same time
___ A shared meal, usually with everyone at the dinner table

13. Which option best describes your family's eating habits during WEEKENDS?
___ No actual meal, everyone getting just something to eat
___ A hot meal, but the whole family does not eat at the same time
___ A shared meal, usually with everyone at the dinner table

14. Do you ever feel lonely?
___Yes, very often, ___Yes, quite often, ___Yes, sometimes, ___No

15. How many close friends do you have?
___ None, ___One, ___Two, ___Three or more

16. How do you experience the atmosphere of your home?
___Very Good, ___Pretty good, ___Not good and not bad, ___Pretty bad, ___Very Bad

17. I live with…
Mother and father live together ___I live with mother and father
Mother and father live separately ___ I live with mother, ___I live with father,
___ I live mostly with mother, ___I live mostly with father, ___I live equally with mother and father (e.g. weekly basis)
I do not live with my parents ___ I live in foster care, ___ I live in an orphanage

18. How many adults over the age of 18 live in your home?
___ One, ___ Two, ___ Three or more

19. How many children under the age of 18 live in your home?
___ One, ___ Two, ___ Three or more

20. Are you the…
___ Oldest, ___ Youngest, ___ Middle child

21.
A. I like my school
___I like my school very much, ___I like my school
___I do not like my school so much, ___I do not like my school

B. It's nice to be in school
___ I strongly agree, ___I agree
___ I neither agree nor disagree, ___ I disagree

C. I feel I belong in my school
___ I strongly agree, ___I agree
___ I neither agree nor disagree, ___ I disagree

22. Do you worry about your…
___ Physical health, ___Mental health, ___Body image, ___Self-esteem, ___Relationships with friends, ___ relationships with family, ___School, ___Your own or your family's financial situation, ___World events, ___The future

23.Do you feel stressed?
___Yes, ___No, ___Sometimes
What causes your stress? _____

24. Are you content with your life at the moment?
___Very content, ___Content, ___Discontent, ___Very discontent

25. Here are some questions concerning different / various areas of life. Each question has seven possible answers. Please mark the number that best describes your answer. The numbers 1 and 7 represent extremes. If you agree with what is written below number 1, circle number 1; if you agree with what is written below 7, circle number 7. If you feel differently, circle the number that best corresponds to your feeling. Give only one answer to each of the questions. It is important that you answer all 13 questions.

1. Do you have the feeling that you don't really care about what goes on around you?

1	2	3	4	5	6	7
Very seldom or never						Very often

2. Has it happened in the past that you were surprised by the behaviour of people whom you thought you knew well?

1	2	3	4	5	6	7
Never happened						Always happened

3. Has it happened that people whom you counted on disappointed you?

1	2	3	4	5	6	7
Never happened						Always happened

4. Until now your life has had:

1	2	3	4	5	6	7
No clear goals or purpose at all						Very clear goals and purpose

5. Do you have the feeling that you're being treated unfairly?

1	2	3	4	5	6	7
Very often or never						Very seldom

6. Do you have the feeling that you are in an unfamiliar situation and don't know what to do?

1	2	3	4	5	6	7
Very often or never						Very seldom

7. Doing the things you do every day is:

1	2	3	4	5	6	7
A source of deep pleasure and satisfaction						A source of pain and boredom

8. Do you have very mixed-up feelings and ideas?

1	2	3	4	5	6	7
Very often or never						Very seldom

9. Does it happen that you have feelings inside you would rather not feel?

1	2	3	4	5	6	7
Very often or never						Very seldom

10. Many people – even those with a strong character – sometimes feel like sad sacks (losers) in certain situations. How often have you felt this way in the past?

1	2	3	4	5	6	7
Never						Very often

11. When something happened, have you generally found that:

1	2	3	4	5	6	7
You overestimated or underestimated its importance						You saw things in the right proportion

12. How often do you have the feeling that there's little meaning in the things you do in your daily life?

1	2	3	4	5	6	7
Very often or never						Very seldom

13. How often do you have feelings that you're not sure you can keep under control?

1	2	3	4	5	6	7
Very often or never						Very seldom

<u>For the following questions please circle the alternative that suits you best</u>

1 = I agree, 2 = I partially agree, 3 = I disagree, 4 = I strongly disagree

26. I think I'm at least as knowledgeable and skillful as other people 1 2 3 4

27. I think I have several good properties/qualities 1 2 3 4

28. I often feel that I have failed 1 2 3 4

29. I can do things just as well as most other 1 2 3 4

30. I have a feeling that I am good enough 1 2 3 4

31. I'm content with myself 1 2 3 4

32. At times it feels as if I am totally worthless 1 2 3 4

33. Sometimes I think I'm not good at anything 1 2 3 4

34. I have a close relationship with my parents 1 2 3 4

35. I think my parents are warm and loving 1 2 3 4

36. I feel that my parents care about me 1 2 3 4

37. I am content with the relationship I have with my parents 1 2 3 4

38. I have fun with my family 1 2 3 4

39. I can talk to my parents about my problems 1 2 3 4

40. Do you have any pets at home? ___ Yes, ___ No
If yes, what kind? _____

41. What factors do you consider important for wellbeing?
Give three examples. _____
And are these part of your own life? ___Yes, ___Partially, ___No

For the following statements please circle the alternative that suits you best

1=Yes/Often, 2=Sometimes, 3=Not sure, 4=Seldom, 5= No/Never

42. I am healthy 1 2 3 4 5

43. I am happy 1 2 3 4 5

44. I am content with life 1 2 3 4 5

45. Friends and family are important to me 1 2 3 4 5

46. I am financially OK 1 2 3 4 5

47. I have good self-esteem 1 2 3 4 5

48. I think I will manage well in life 1 2 3 4 5

49. I am supported by my friends and family 1 2 3 4 5

50. I try to have a healthy lifestyle 1 2 3 4 5

51. I Have hobbies/interests that feel meaningful 1 2 3 4 5

52. I feel liked / loved 1 2 3 4 5

53. I have someone to talk to about important issues 1 2 3 4 5

54. Our family has traditions that are important for us 1 2 3 4 5

55. Do you have or have you ever had an eating disorder? ___Yes, ___No

56. If you said Yes, what kind of eating disorder?
___Anorexia Nervosa, ___ Bulimia Nervosa, ___Binge eating disorder, ___Non specific

57. Does anyone in your family have an eating disorder? ___Yes, ___No, ___Don't know

58. If Yes, who has an eating disorder?
___Mother, ___Father, ___Sibling, ___Step-parent, ___Other person

59. Do you think that there is a risk that you can develop an eating disorder?
___Yes, ___No, ___Maybe

Thank you for participating in this study. All responses will remain anonymous. The researcher cannot identify individual respondents. Your teacher and the school nurse can identify you through your identification code but they do not have access to the research material. Research results will be presented in such a way that no individual respondent or family can be identified.

Finally,

60. If you have an eating disorder and are not receiving help and care OR you are afraid that there might be a risk that you might develop an eating disorder, do you want the researcher to give your identification code to the school nurse so that she can contact you and offer some help? ___Yes, ___No

Appendix 4. Parent survey wave I

1. Gender ___ Female ___ Male

2. Year of birth _____

3. Mother tongue_____

4. Occupation _____

5. Marital status ___Married, ___Unmarried, ___Divorced, ___Widowed

6. Size of family: ____Adults, ___Children

7. The student in grade 7 that answers the questionnaire is my
___Daughter, ___Son, ___Step-child/Partners child, ___Adopted

8. Height _____ **Weight** _____

9. How do you rate your health?
___Very good, ___Good, ___Mediocre, ___ Bad

10. Do you have any long-term illness or disability diagnosed by a doctor?
___ Yes, ___ No
If you answered yes, then what_____

11. Do you think you are…?
___Too skinny, ___a little skinny, ___fine, ___a little fat, ___too fat

12. Do you think you are…?
___Very good looking, ___good looking, ___average, ___ugly, ___very ugly

13. Are you following a special diet to lose weight?
__No, my weight is OK, __No, as I'm too skinny, __No, but I should lose weight, __Yes

14. Have you dieted in the past 12 months?
___No
___Yes, some days, ___Yes, for a week, ___Yes, longer than a week and less than a month,
___Yes, for a month, ___Yes, for more than one month but for less than 6 months,
___Yes, for 6 months or longer

15. Which option best describes your family's eating habits during SCHOOL DAYS?
___ No actual meal, everyone getting just something to eat
___ A hot meal, but the whole family does not eat at the same time
___ A shared meal, usually with everyone at the dinner table

16. Which option best describes your family's eating habits during WEEKENDS?
___ No actual meal, everyone getting just something to eat
___ A hot meal, but the whole family does not eat at the same time
___ A shared meal, usually with everyone at the dinner table

17. **How do you experience the atmosphere of your home?**
___Very Good, ___Pretty good, ___Not good and not bad, ___Pretty bad, ___Very Bad

18. **Do you worry about your…**
Your child's:
___Physical health, ___Mental health, ___Body image, ___Self-esteem, ___Relationships with friends, ___ relationships with family, ___School, ___Your own or your family's financial situation, ___World events, ___The future
Your own:
___Physical health, ___Mental health, ___Body image, ___Self-esteem, ___Relationships with friends, ___ relationships with family, ___School, ___Your own or your family's financial situation, ___World events, ___The future

19. Here are some questions concerning different / various areas of life. Each question has seven possible answers. Please mark the number that best describes your answer. The numbers 1 and 7 represent extremes. If you agree with what is written below number 1, circle number 1; if you agree with what is written below 7, circle number 7. If you feel differently, circle the number that best corresponds to your feeling. Give only one answer to each of the questions. It is important that you answer all 13 questions.

1. Do you have the feeling that you don't really care about what goes on around you?

1	2	3	4	5	6	7
Very seldom or never						Very often

2. Has it happened in the past that you were surprised by the behaviour of people whom you thought you knew well?

1	2	3	4	5	6	7
Never happened						Always happened

3. Has it happened that people whom you counted on disappointed you?

1	2	3	4	5	6	7
Never happened						Always happened

4. Until now your life has had:

1	2	3	4	5	6	7
No clear goals or purpose at all						Very clear goals and purpose

5. Do you have the feeling that you're being treated unfairly?

1	2	3	4	5	6	7
Very often or never						Very seldom

6. Do you have the feeling that you are in an unfamiliar situation and don't know what to do?

1	2	3	4	5	6	7
Very often or never						Very seldom

7. Doing the things you do every day is:

1	2	3	4	5	6	7
A source of deep pleasure and satisfaction						A source of pain and boredom

8. Do you have very mixed-up feelings and ideas?

1	2	3	4	5	6	7
Very often or never						Very seldom

9. Does it happen that you have feelings inside you would rather not feel?

1	2	3	4	5	6	7
Very often or never						Very seldom

10. Many people – even those with a strong character – sometimes feel like sad sacks (losers) in certain situations. How often have you felt this way in the past?

1	2	3	4	5	6	7
Never						Very often

11. When something happened, have you generally found that:

1	2	3	4	5	6	7
You overestimated or underestimated its importance						You saw things in the right proportion

12. How often do you have the feeling that there's little meaning in the things you do in your daily life?

1	2	3	4	5	6	7
Very often or never						Very seldom

13. How often do you have feelings that you're not sure you can keep under control?

1	2	3	4	5	6	7
Very often or never						Very seldom

20. Do you feel stressed?
___Yes, ___No, ___Sometimes
What causes your stress? _____

21. Are you content with your life at the moment?
___Very content, ___Content, ___Discontent, ___Very discontent

For the following questions please circle the alternative that suits you best

1=Yes/Often, 2=Sometimes, 3=Not sure, 4=Seldom, 5= No/Never

22. I am healthy	1 2 3 4 5
23. I am happy	1 2 3 4 5
24. I am content with life	1 2 3 4 5
25. Friends and family are important to me	1 2 3 4 5
26. I am financially OK	1 2 3 4 5
27. I have good self-esteem	1 2 3 4 5
28. I think I will manage well in life	1 2 3 4 5
29. I am supported by my friends and family	1 2 3 4 5
30. I try to have a healthy lifestyle	1 2 3 4 5
31. I Have hobbies/interests that feel meaningful	1 2 3 4 5
32. I feel liked / loved	1 2 3 4 5
33. I have someone to talk to about important issues	1 2 3 4 5
34. Our family has traditions that are important for us	1 2 3 4 5

35. What factors do you consider important for wellbeing?
Give three examples. _____
And are these part of your own life? ___Yes, ___Partially, ___No

36. Do you have or have you ever had an eating disorder? ___Yes, ___No

37. If you said Yes, what kind of eating disorder?
___Anorexia Nervosa, ___ Bulimia Nervosa, ___Binge eating disorder, ___Non specific

38. Does anyone in your family have an eating disorder? ___Yes, ___No, ___Don't know

39. If Yes, who has an eating disorder?
___Daughter, ___Son, ___Mother, ___Father, ___Sibling, ___Step-parent, ___Other person

40. Do you think that there is a risk that your child can develop an eating disorder?
___Yes, ___No, ___Maybe

41. What do you think can protect her/him from developing an eating disorder?

Thank you for answering!

Appendix 5. Letter of consent

Folkhälsan Research Centre
The program of research in Health Promotion
Paasikivi Street 4, 00250 Helsinki
09-xxxxxxx

20.10.2008

_____ I give my consent

_____ I do not give my consent

for my child to participate in Pamela Mosley-Hänninen's research study

"The family as a source of vitality." *

All responses will remain anonymous. The research material is to be used solely by the researcher and will not be divulged to a third party. The researcher cannot identify individual respondents. The school does not have access to the research material. The school nurse can identify students through an identification code but they do not have access to the research material. Research results will be presented in such a way that no individual respondent or family can be identified.

Student's name _____

Guardian's name _____

Location and date _____ / _____ 2008

*This was the name that Folkhälsan used on their webpage for the research project In Swedish it was called 'Familjen som livskraft'.

Appendix 6. Letter asking for families to participate in interviews

2009

Hello!

I am a researcher at Folkhälsans Research Centre. My research focuses on youth and family resources, abilities and skills to cope with everyday life. With this research I am aiming to develop a model for helping families to identify, reflect upon and mobilize resources that can contribute to better health.

The research is based on a positive health theory and purpose of the research is to investigate young people's sense of context and resources available in everyday life, to gain insight into how the family affects the development of the youth's sense of coherence and to examine and describe what the family's sense of coherence is. Sense of coherence is a multidimensional concept used to describe the factors that contribute to health. We know that sense of coherence develops in childhood.

Students who began year 2008 in XXXX school in class 7 have participated in this study by completing questionnaires in the fall of 2008 and 2009. It is important to gain a deeper understanding of family life factors influencing sense of coherence. Therefore, I wish to interview several families. All families are welcome to participate in these interviews. As the experience of your family is valuable for research and this study I would like to invite you to participate in an interview.

The whole family is welcome to participate, but the interview can also be made with only the youth who participated in the research and at least one parent. The interview will take approx. 2 hours and can take place in Helsinki at Folkhälsans Research Centre on Paasikivi Street 4. The interview can also be conducted in your family home if you desire.

If you can imagine participating in this important interview, please contact me by e-mail, xxxxx @ folkhalsan.fi or phone. xxx-xxxxxxx.

Please contact me if you have any questions.

Best regards,

Pamela Mosley
Researcher, Folkhälsan Research Centre, Program for research in Health Promotion, Helsinki
Doctoral student, NHV, Nordic School of Public Health, Gothenburg, Sweden

Appendix 7. Adolescent survey wave II

1. Gender ___ Girl ___ Boy

2. Height _____ Weight _____

3. How do you rate your health?
___Very good, ___Good, ___Mediocre, ___ Bad

4. Do you have any long-term illness or disability diagnosed by a doctor?
___ Yes, ___ No
If you answered yes, then what_____

5. Are you content with your life at the moment?
___Very content, ___Content, ___Discontent, ___Very discontent

6. I live with…
___with my mother and father, ___ with my mother, ___with my father, ___I do not live with my parents

7. Do you ever feel lonely?
___Yes, very often, ___Yes, quite often, ___Yes, sometimes, ___No

8. How many close friends do you have?
___ None, ___One, ___Two, ___Three or more

9.
A. I like my school
___I like my school very much, ___I like my school
___I do not like my school so much, ___I do not like my school

B. It's nice to be in school
___ I strongly agree, ___I agree
___ I neither agree nor disagree, ___ I disagree

C. I feel I belong in my school
___ I strongly agree, ___I agree
___ I neither agree nor disagree, ___ I disagree

10. Here are some questions concerning different / various areas of life. Each question has seven possible answers. Please mark the number that best describes your answer. The numbers 1 and 7 represent extremes. If you agree with what is written below number 1, circle number 1; if you agree with what is written below 7, circle number 7. If you feel differently, circle the number that best corresponds to your feeling. Give only one answer to each of the questions. It is important that you answer all 13 questions.

1. Do you have the feeling that you don't really care about what goes on around you?

1	2	3	4	5	6	7
Very seldom or never						Very often

2. Has it happened in the past that you were surprised by the behaviour of people whom you thought you knew well?

1	2	3	4	5	6	7
Never happened						Always happened

3. Has it happened that people whom you counted on disappointed you?

1	2	3	4	5	6	7
Never happened						Always happened

4. Until now your life has had:

1	2	3	4	5	6	7
No clear goals or purpose at all						Very clear goals and purpose

5. Do you have the feeling that you're being treated unfairly?

1	2	3	4	5	6	7
Very often						Very seldom or never

6. Do you have the feeling that you are in an unfamiliar situation and don't know what to do?

1	2	3	4	5	6	7
Very often						Very seldom or never

7. Doing the things you do every day is:

1	2	3	4	5	6	7
A source of deep pleasure and satisfaction						A source of pain and boredom

8. Do you have very mixed-up feelings and ideas?

1	2	3	4	5	6	7
Very often						Very seldom or never

9. Does it happen that you have feelings inside you would rather not feel?

1	2	3	4	5	6	7
Very often						Very seldom or never

10. Many people – even those with a strong character – sometimes feel like sad sacks (losers) in certain situations. How often have you felt this way in the past?

1	2	3	4	5	6	7
Never						Very often

11. When something happened, have you generally found that:

1	2	3	4	5	6	7
You overestimated or underestimated its importance						You saw things in the right proportion

12. How often do you have the feeling that there's little meaning in the things you do in your daily life?

1	2	3	4	5	6	7
Very often						Very seldom or never

13. How often do you have feelings that you're not sure you can keep under control?

1	2	3	4	5	6	7
Very often						Very seldom or never

<u>11. For the following questions please circle the alternative that suits you best</u>

1 = I agree, 2 = I partially agree, 3 = I disagree, 4 = I strongly disagree

I feel that I'm a person of worth, at least on an equal plane with others	1 2 3 4
I feel that I have a number of good qualities	1 2 3 4
All in all, I am inclined to feel that I am a failure	1 2 3 4
I am able to do things as well as most other people	1 2 3 4
I feel I do not have much to be proud of	1 2 3 4
I take a positive attitude toward myself	1 2 3 4
On the whole, I am satisfied with myself	1 2 3 4
I wish I could have more respect for myself	1 2 3 4
At times, I think I am no good at all	1 2 3 4
I certainly feel useless at times	1 2 3 4

12. For the following questions please circle the alternative that suits you best

1 = I agree, 2 = I partially agree, 3 = I disagree, 4 = I strongly disagree

I have a close relationship with my parents	1 2 3 4
I think my parents are warm and loving	1 2 3 4
I feel that my parents care about me	1 2 3 4
I am content with the relationship I have with my parents	1 2 3 4
I have fun with my family	1 2 3 4
I can talk to my parents about my problems	1 2 3 4

13. For the following statements please circle the alternative that suits you best

1=Yes/Often, 2=Sometimes, 3=Not sure, 4=Seldom, 5= No/Never

I am healthy	1 2 3 4 5
I am happy	1 2 3 4 5
I am content with life	1 2 3 4 5
Friends and family are important to me	1 2 3 4 5
I am financially OK	1 2 3 4 5
I have good self-esteem	1 2 3 4 5
I think I will manage well in life	1 2 3 4 5
I am supported by my friends and family	1 2 3 4 5
I try to have a healthy lifestyle	1 2 3 4 5
I Have hobbies/interests that feel meaningful	1 2 3 4 5
I feel liked / loved	1 2 3 4 5
I have someone to talk to about important issues	1 2 3 4 5
Our family has traditions that are important for us	1 2 3 4 5

14. For the following statements please circle the alternative that suits you best

Do you make yourself **S**ick because you feel uncomfortably full? ___Yes, ___No
Do you worry that you have lost **C**ontrol over how much you eat? ___Yes, ___No
Have you recently lost more then **O**ne stone in a 3-month period? ___Yes, ___No
Do you believe yourself to be **F**at when others say you are too thin? ___Yes, ___No
Would you say **F**ood dominates your life? ___Yes, ___No

15. Do you have or have you ever had an eating disorder? ___Yes, ___No
If you said Yes, what kind of eating disorder?
___Anorexia Nervosa, ___ Bulimia Nervosa, ___Binge eating disorder, ___Non specific

16. Does anyone in your family have an eating disorder? ___Yes, ___No, ___Don't know

17. If Yes, who has an eating disorder?
___Mother, ___Father, ___Sibling, ___Step-parent, ___Other person

Thank you for answering!

Appendix 8. Adolescent survey wave III

1. Gender ___ Girl ___ Boy

2. Height _____ Weight _____

3. How do you rate your health?
___Very good, ___Good, ___Mediocre, ___ Bad

4. Do you have any long-term illness or disability diagnosed by a doctor?
___ Yes, ___ No
If you answered yes, then what_____

5. Are you content with your life at the moment?
___Very content, ___Content, ___Discontent, ___Very discontent

What is good / bad with your life at the moment?
_____
_____
_____
_____

6. What factors do you consider important for wellbeing?
_____
_____
_____
_____

7. Are these factors part of your own life? ___Yes, ___Partially, ___No

8. Do you feel stressed?
___Yes, ___No, ___Sometimes

9. What causes your stress?
_____
_____
_____
_____

10. What do you do to combat stress?
_____
_____
_____
_____

11. Do you felt lonely?
___Yes, very often, ___Yes, quite often, ___Yes, sometimes, ___No

12. How many close friends do you have at the moment?
___ None, ___One, ___Two, ___Three or more

13. Have you ever been bullied? ___Yes, ___No
If Yes, when did it happen, what kind of bullying and was anything done to stop the bullying?

_____
_____
_____
_____

14. What is important for adolescent wellbeing?

_____
_____
_____
_____

15. For the following questions please circle the alternative that suits you best

1 = I agree, 2 = I partially agree, 3 = I disagree, 4 = I strongly disagree

I feel that I'm a person of worth, at least on an equal plane with others	1 2 3 4
I feel that I have a number of good qualities	1 2 3 4
All in all, I am inclined to feel that I am a failure	1 2 3 4
I am able to do things as well as most other people	1 2 3 4
I feel I do not have much to be proud of	1 2 3 4
I take a positive attitude toward myself	1 2 3 4
On the whole, I am satisfied with myself	1 2 3 4
I wish I could have more respect for myself	1 2 3 4
At times, I think I am no good at all	1 2 3 4
I certainly feel useless at times	1 2 3 4

16. What hobbies / interests / free time activities do you have?

_____
_____
_____
_____

17.

A. I like my school

___I like my school very much, ___I like my school
___I do not like my school so much, ___I do not like my school

B. It's nice to be in school

___ I strongly agree, ___I agree
___ I neither agree nor disagree, ___ I disagree

C. I feel I belong in my school

___ I strongly agree, ___I agree
___ I neither agree nor disagree, ___ I disagree

D. What do you like about your school? What is good? What is bad?

_____
_____
_____

18. Here are some questions concerning different / various areas of life. Each question has seven possible answers. Please mark the number that best describes your answer. The numbers 1 and 7 represent extremes. If you agree with what is written below number 1, circle number 1; if you agree with what is written below 7, circle number 7. If you feel differently, circle the number that best corresponds to your feeling. Give only one answer to each of the questions. It is important that you answer all 13 questions.

1. Do you have the feeling that you don't really care about what goes on around you?

1	2	3	4	5	6	7
Very seldom or never						Very often

2. Has it happened in the past that you were surprised by the behaviour of people whom you thought you knew well?

1	2	3	4	5	6	7
Never happened						Always happened

3. Has it happened that people whom you counted on disappointed you?

1	2	3	4	5	6	7
Never happened						Always happened

4. Until now your life has had:

1	2	3	4	5	6	7
No clear goals or purpose at all						Very clear goals and purpose

5. Do you have the feeling that you're being treated unfairly?

1	2	3	4	5	6	7
Very often						Very seldom or never

6. Do you have the feeling that you are in an unfamiliar situation and don't know what to do?

1	2	3	4	5	6	7
Very often						Very seldom or never

7. Doing the things you do every day is:

1	2	3	4	5	6	7
A source of deep pleasure and satisfaction						A source of pain and boredom

8. Do you have very mixed-up feelings and ideas?

1	2	3	4	5	6	7
Very often						Very seldom or never

9. Does it happen that you have feelings inside you would rather not feel?

1	2	3	4	5	6	7
Very often						Very seldom or never

10. Many people – even those with a strong character – sometimes feel like sad sacks (losers) in certain situations. How often have you felt this way in the past?

1	2	3	4	5	6	7
Never						Very often

11. When something happened, have you generally found that:

1	2	3	4	5	6	7
You overestimated or underestimated its importance						You saw things in the right proportion

12. How often do you have the feeling that there's little meaning in the things you do in your daily life?

1	2	3	4	5	6	7
Very often						Very seldom or never

13. How often do you have feelings that you're not sure you can keep under control?

1	2	3	4	5	6	7
Very often						Very seldom or never

19. Who do you live with?
(With mum and/or dad, with mum and/or dad and their partner, with siblings/half siblings, with my grandparents, in a foster family. On a permanent or alternating basis etc.)

_____
_____
_____
_____

20. How do you experience the atmosphere of your home?
___Very Good, ___Pretty good, ___Not good and not bad, ___Pretty bad, ___Very Bad

21. Do you feel loved? ___Yes. ___No, ___Don't know

22. What do you like about your family? What is good? What is bad?

_____
_____
_____
_____

23. For the following questions please circle the alternative that suits you best

1 = I agree, 2 = I partially agree, 3 = I disagree, 4 = I strongly disagree

I have a close relationship with my parents	1 2 3 4
I think my parents are warm and loving	1 2 3 4
I feel that my parents care about me	1 2 3 4
I am content with the relationship I have with my parents	1 2 3 4
I have fun with my family	1 2 3 4
I can talk to my parents about my problems	1 2 3 4

24. Does your family have traditions that are important for you? What kind of traditions?

_____
_____
_____
_____

25. What do you do together with your family? (e.g. hobbies or trips)

_____
_____
_____
_____

26. What kind of rules do you have in your family? (e.g. homecoming or use of the computer) What are the most important?

_____
_____
_____
_____

27. Have there been any major changes in the family during the last three years? (e.g. divorce, illness or death)

_____
_____
_____
_____

28. Do you have an adult contact outside the family? Who is it and what is important with that relationship?

_____
_____
_____
_____

29. Describe your family's mealtime situation. (e.g. do you eat together, at the table etc.)

_____
_____
_____
_____

30. Is there something I haven't asked about you and your life that is important for your health and wellbeing, and that you think I should know about in order to get the whole picture…

Write your question here

_____
_____

And your answer here

_____
_____
_____
_____

Thank you for answering!

Appendix 9. Parent survey wave III

1. Gender ___ Female ___ Male

2. Year of birth _____

3. Occupation _____

4. Marital status ___Married, ___Unmarried, ___Divorced, ___Widowed

5. How do you rate your health?
___Very good, ___Good, ___Mediocre, ___ Bad

6. Do you have any long-term illness or disability diagnosed by a doctor?
___ Yes, ___ No
If you answered yes, then what_____

7. Are you content with your life at the moment?
___Very content, ___Content, ___Discontent, ___Very discontent

8. What is good / bad with your life at the moment?
_____
_____
_____
_____

9. What factors do you consider important for wellbeing?
_____
_____
_____
_____

10. Are these factors part of your own life? ___Yes, ___Partially, ___No

11. Do you feel stressed?
___Yes, ___No, ___Sometimes

12. What causes your stress?
_____
_____
_____
_____

13. What do you do to combat stress?

_____
_____
_____
_____

14. What is important for adolescent wellbeing?

_____
_____
_____
_____

15. Here are some questions concerning different / various areas of life. Each question has seven possible answers. Please mark the number that best describes your answer. The numbers 1 and 7 represent extremes. If you agree with what is written below number 1, circle number 1; if you agree with what is written below 7, circle number 7. If you feel differently, circle the number that best corresponds to your feeling. Give only one answer to each of the questions. It is important that you answer all 13 questions.

1. Do you have the feeling that you don't really care about what goes on around you?

1	2	3	4	5	6	7
Very seldom or never						Very often

2. Has it happened in the past that you were surprised by the behaviour of people whom you thought you knew well?

1	2	3	4	5	6	7
Never happened						Always happened

3. Has it happened that people whom you counted on disappointed you?

1	2	3	4	5	6	7
Never happened						Always happened

4. Until now your life has had:

1	2	3	4	5	6	7
No clear goals or purpose at all						Very clear goals and purpose

5. Do you have the feeling that you're being treated unfairly?

1	2	3	4	5	6	7
Very often						Very seldom or never

6. Do you have the feeling that you are in an unfamiliar situation and don't know what to do?

1	2	3	4	5	6	7
Very often						Very seldom or never

7. Doing the things you do every day is:

1	2	3	4	5	6	7
A source of deep pleasure and satisfaction						A source of pain and boredom

8. Do you have very mixed-up feelings and ideas?

1	2	3	4	5	6	7
Very often						Very seldom or never

9. Does it happen that you have feelings inside you would rather not feel?

1	2	3	4	5	6	7
Very often						Very seldom or never

10. Many people – even those with a strong character – sometimes feel like sad sacks (losers) in certain situations. How often have you felt this way in the past?

1	2	3	4	5	6	7
Never						Very often

11. When something happened, have you generally found that:

1	2	3	4	5	6	7
You overestimated or underestimated its importance						You saw things in the right proportion

12. How often do you have the feeling that there's little meaning in the things you do in your daily life?

1	2	3	4	5	6	7
Very often or never						Very seldom

13. How often do you have feelings that you're not sure you can keep under control?

1	2	3	4	5	6	7
Very often						Very seldom or never

16. Who do you live with?

_____
_____
_____
_____

17. How do you experience the atmosphere of your home?
___Very Good, ___Pretty good, ___Not good and not bad, ___Pretty bad, ___Very Bad

18. For the following questions please circle the alternative that suits you best

1 = I agree, 2 = I partially agree, 3 = I disagree, 4 = I strongly disagree

I have a close relationship with my family	1 2 3 4
I think my family is warm and loving	1 2 3 4
I feel that my family care about me	1 2 3 4
I am content with the relationship I have with my family	1 2 3 4
I have fun with my family	1 2 3 4
I can talk to my family about my problems	1 2 3 4

19. Does your family have traditions that are important for you? What kind of traditions?

_____
_____
_____
_____

20. What do you do together with your family? (E.g. hobbies or trips)

_____
_____
_____
_____

21. What kind of rules do you have for your child? What are the most important?

_____
_____
_____
_____

22. Have there been any major changes in the family during the last three years? (e.g. divorce, illness or death)

_____
_____
_____
_____

23. Describe your family's mealtime situation. (e.g. do you eat together, at the table etc.)

_____
_____
_____
_____

24. Is there something I haven't asked about you and your life that is important for your health and wellbeing, and that you think I should know about in order to get the whole picture…

Write your question here

_____
_____

And your answer here

_____
_____
_____
_____

Thank you for answering!

Appendix 10. Cover letter 2010

Hello!

I am a researcher at Folkhälsan Research Centre's program for Health Promotion research. In 2008 all students starting class 7 in XXXX school were invited to participate in a three year study. My research is based on a positive health theory and the purpose of the research is to investigate young people's sense of coherence and resources available in everyday life and gain insight into how the family affects the development of the youth's sense of coherence. Sense of coherence is a multidimensional concept used to describe the factors that contribute to health. We know that sense of coherence develops in childhood.

It is completely voluntary to participate, but I hope that you are in favour of doing so, as it is YOU who has the necessary information to make this study possible. Once the surveys are completed they can be posted to the researcher in the prepaid envelope or returned to school at the latest December 15th. You can withdraw from the study at any time. All responses will remain anonymous. Only the researcher and thesis supervisors can view the data.

The researcher cannot identify individual respondents. The school does not have access to any data. However, the school nurse can identify students by number as the students are offered the possibility for the researcher to contact the school nurse in case they think they have an eating disorder and wish for care. Research results will be presented so that no individual respondent or family can be identified.

The experience of your family is valuable for my research and so I invite you to participate in an approximately 2-hour interview. I will gladly come to your home in case it is easiest for you to gather the family there, or we can meet in school or in Folkhälsan's facilities in Helsinki or at another agreed location.

The whole family is welcome to participate, but the interview can be made with only the youth who participated in the research and at least one parent.

If you can imagine to participate in this important interview, please contact me by e-mail, xxxxxxxxxxxxx @ folkhalsan.fi or phone. 040-xxxxxx

Please contact me if you have any questions.

Pamela Mosley
Researcher, Folkhälsan Research Centre, Helsinki Finland
PhD student, NHV Nordic School of Public Health, Gothenburg, Sweden

Appendix 11. Semi-structured interview guide

INTERVIEW STRUCTURE

1. HISTORY (GENOGRAM)

- FAMILY BEFORE YOU / YOU GOT KIDS
- X'S BIRTH (First child)
- FAMILY WITH X
- XX'S BIRTH (Other children)
- TIME WITH X 0CH XX
- HOW DID THE PARENTS EXPERIENCE THEIR OWN FAMILIES? EXTENDED FAMILY, TRADITIONS. COMPARE WITH FAMILY NOW.

2. PRESENT (GENOGRAM + ECOMAP)

- HOW WOULD YOU DESCRIBE YOUR FAMILY?
- UNIQUE OR SIMILAR FAMILY CHARACTERISTICS
- SHARED - INDIVIDUAL PESRECTIVES / STORIES OF FAMILY
- REALITY – IDEAL, STRESS
- ROLES, LEADER, SCAPEGOAT…
- EXAMPLES OF TYPICAL FAMILY DAILY LIFE
- ANY SPECIFIC FAMILY "THING"
- ROUTINES
- RULES
- COMMUNICATION
- CLOSENESS, HUGS / FEEL LOVED
- FIGHTS, DISAGREEMENTS, PROBLEMSOLVING
- COOPERATION
- FAMILY STRENGTHS - WEAKNESSES
- WHAT IS MEANINGFUL, CLEAR GOALS

3. FUTURE (TASK)

- TO WHAT EXTENT DOESS YOUR FAMILY'S FUTURE SEEM CLEAR
- ANY VISION OF HOW FAMILY LIFE WILL BE IN ABOUT 5 YEARS TIME
- TASK: TO PLAN A FAMILY DAY TOGETHER (PROGRAM + MEAL) SO THAT EVERYONE IS CONTENT

IS THERE SOMETHING IMPORTANT THAT I HAVE NOT ASKED YOU THAT YOU WANT ME TO KNOW ABOUT YOUR FAMILY.

Appendix 12. Letter asking for families to interview

Hello!

I want to thank you for your participation in Folkhälsans research study. You are one of 18 families that have participated in all three years of this study.

Your families represent "ordinary Swedish-speaking Finnish families." There are two-parent families, families with single parents, married parents, divorced parents, families with several children, families with one child, families with children living in the same place and families with children who live alternately with their mother and father...

Folkhälsan is thankful to you for giving us access to a rich material that can be used for the research purpose of gaining insight into how the family influences the development of a young person's sense of coherence. This research is unique, as there is no study that has investigated the sense of coherence in young people and their family for the duration of three years.

The research material however does consist mainly of data generated from the questionnaires. Despite it being rich it cannot provide an in-depth insight into the nuances of family life with young people, or into what resources are found in the family. This research study would have much to gain by getting an insight into your family's daily life. This could be done by gaining data through an interview with your family.

If you can imagine participating in an interview, I would be glad if you send a message, for example, "Our family will participate in the interview," to my email xxxxx@folkhalsan.fi or phone 040-xxxxxxx and I will contact you so we can agree on a location and time.

Sincerely,

Pamela Gray (Former Mosley-Hänninen, Mosley)
Researcher, Folkhälsan Research Centre, Helsinki, Finland
PhD student, Northumbria University, Newcastle, England

Appendix 13. Adolescent participation pattern

	Girls	**Boys**
Wave I (*N*=60) **Girls 37** **Boys 23**	7, 12, 15, 16, 17, 18, 19, 22, 23, 25, 27, 34, 36, 37, 39, 45, 47, 48, 52, 53, 61, 64, 69, 70, 71, 72, 81, 75, 77, 82, 83, 84, 87, 90, 92, 93, 96	3, 6, 9, 14, 30, 33, 43, 44, 46, 51, 56, 59, 62, 66, 74, 79, 80, 85, 88, 91, 94, 95, 99
Wave II (*N*=60) **Girls 35** **Boys 25**	7, 8, 12, 15, 16, 17, 18, 19, 22, 23, 25, 27, 34, 36, 37, 39, 45, 47, 52, 53, 61, 64, 70, 71, 75, 77, 81, 82, 83, 84, 87, 90, 92, 93, 96	3, 5, 6, 9, 10, 14, 30, 33, 43, 46, 50, 51, 56, 59, 62, 63, 66, 74, 79, 80, 88, 91, 94, 95, 99
Wave III (*N*=48) **Girls 30** **Boys 18**	7, 8, 12, 15, 17, 19, 22, 23, 25, 27, 34, 36, 37, 39, 45, 53, 61, 64, 69, 71, 75, 77, 81, 83, 84, 87, 90, 92, 93, 96	3, 5, 6, 10, 30, 33, 43, 44, 46, 50, 56, 59, 63, 66, 79, 85, 88, 94

Appendix 14. Parent participation pattern

	Mothers	Fathers
Wave I (*N*=89) **M=49** **F=40**	6, 7, 9, 12, 14, 16, 17, 18, 19, 22, 23, 25, 27, 30, 33, 34, 36, 37, 39, 43, 44, 45, 46, 47, 51, 52, 53, 56, 59, 62, 64, 66, 69, 70, 71, 74, 75, 77, 80, 85, 87, 88, 90, 91, 93, 94, 95, 96, 99	7, 9, 14, 16, 17, 19, 22, 23, 27, 30, 34, 36, 37, 43, 44, 45, 47, 48, 52, 53, 56, 61, 64, 66, 69, 71, 72, 74, 75, 79, 80, 82, 83, 87, 90, 91, 92, 93, 96, 99
Wave III (*N*=30) **M=20** **F=10**	7, 8, 12, 17, 19, 23, 37, 43, 44, 45, 47, 50, 53, 63, 64, 83, 93, 94, 96, 99	7, 12, 17, 23, 27, 43, 53, 71, 83, 93

M=Mothers, F=Fathers

Appendix 15. Adolescents situated in Strong - Weak subgroups

Participant identification numbers of those with strong SOC

Strong SOC	Girls	Boys
Wave I (*N*=44) **Girls 24** **Boys 20**	7, 12, 16, 17, 18, 19, 23, 25, 27, 34, 47, 48, 52, 53, 70, 75, 77, 82, 83, 84, 87, 90, 92, 93	3, 6, 9, 14, 30, 33, 43, 44, 46, 56, 59, 66, 74, 79, 85, 88, 91, 94, 95, 99
Wave II (*N*=32) **Girls 14** **Boys 18**	8, 12, 16, 34, 47, 53, 61, 64, 70, 75, 82, 83, 84, 92	3, 6, 9, 10, 14, 33, 43, 50, 56, 59, 66, 74, 79, 80, 88, 91, 94, 95
Wave III (*N*=22) **Girls 10** **Boys 12**	7, 8, 12, 34, 64, 69, 81, 84, 92, 93	3, 6, 33, 43, 44, 46, 50, 56, 59, 66, 85, 94

Participant identification numbers of those with weak SOC

Weak SOC	Girls	Boys
Wave I (*N*=16) **Girls 13** **Boys 3**	15, 22, 36, 37, 39, 45, 61, 64, 69, 71, 72, 81, 96	51, 62, 80
Wave II (*N*=28) **Girls 21** **Boys 7**	7, 15, 17, 18, 19, 22, 23, 25, 27, 36, 37, 39, 45, 52, 71, 77, 81, 87, 90, 93, 96	5, 30, 46, 51, 62, 63, 99
Wave III (*N*=26) **Girls 20** **Boys 6**	15, 17, 19, 22, 23, 25, 27, 36, 37, 39, 45, 53, 61, 71, 75, 77, 83, 87, 90, 96,	5, 10, 30, 63, 79, 88

Appendix 16. Parents situated in strong - weak subgroups

Participant identification numbers of those with strong SOC

Strong SOC	Mothers	Fathers
Wave I (*N*=66) **Mothers 36** **Fathers 30**	6, 7, 9, 12, 16, 18, 22, 23, 25, 30, 33, 34, 37, 43, 44, 45, 47, 51, 52, 56, 59, 62, 64, 66, 74, 75, 77, 80, 85, 87, 90, 91, 93, 94, 95, 96	7, 9, 14, 16, 19, 22, 23, 30, 34, 36, 43, 45, 47, 48, 52, 64, 66, 69, 71, 74, 75, 79, 82, 83, 90, 91, 92, 93, 96, 99
Wave III (*N*=20) **Mothers 14** **Fathers 6**	7, 12, 17, 23, 37, 43, 45, 47, 50, 64, 83, 93, 94, 96	7, 12, 23, 43, 83, 93

Participant identification numbers of those with weak SOC

Weak SOC	Mothers	Fathers
Wave I (*N*=22) **Mothers 12** **Fathers 10**	17, 19, 27, 36, 39, 46, 53, 69, 70, 71, 88, 99	17, 27, 37, 44, 53, 56, 61, 72, 80, 87
Wave III (*N*=10) **Mothers 6** **Fathers 4**	8, 19, 44, 53, 63, 99	17, 27, 53, 71

Appendix 17. Mean scores from individual GRR statements

Mean scores from individual GRR statements wave I

	TOTAL	GIRLS	BOYS	*t* (58)	*p*
1) Feel healthy	M=4.78, SD=0.49	M=4.86, SD=0.35	M=4.65, SD=0.65	1.66	.10
2) Feel happy	M=4.62, SD=0.52	M=4.68, SD=0.53	M=4.52, SD=0.51	1.11	.27
3) Feel content	M=4.72, SD=0.64	M=4.73, SD=0.61	M=4.70, SD=0.70	0.20	.84
4) Friends and family	M=4.55, SD=0.77	M=4.41, SD=0.87	M=4.78, SD=0.51	-1.89	.06
5) Enough money	M=4.42, SD=0.74	M=4.24, SD=0.80	M=4.70, SD=0.56	-2.38	.02*
6) Self-esteem	M=4.57, SD=0.67	M=4.49, SD=0.73	M=4.70, SD=0.56	-1.17	.25
7) Optimism	M=4.97, SD=0.18	M=4.95, SD=0.23	M=5.00, SD=0.00	-1.13	.26
8) Received support	M=4.68, SD=0.60	M=4.68, SD=0.60	M=4.68, SD=0.65	-0.04	.97
9) Healthy lifestyle	M=4.85, SD=0.41	M=4.84, SD=0.44	M=4.68, SD=0.35	-0.23	.82
10) Hobbies	M=4.48, SD=0.95	M=4.49, SD=0.93	M=4.48, SD=0.99	0.03	.97
11) Feel loved	M=4.65, SD=0.71	M=4.73, SD=0.65	M=4.52, SD=0.80	1.11	.27
12) Dialogue	M=4.72, SD=0.61	M=4.70, SD=0.57	M=4.74, SD=0.69	-0.22	.83
13) Family traditions	M=4.25, SD=0.93	M=4.46, SD=0.84	M=3.91, SD=1.00	2.29	.03*

* $p \leq .05$, difference is significant

Mean scores from individual GRR statements wave II

	TOTAL	GIRLS	BOYS	*t* (58)	*p*
1) Feel healthy	M=4.74, SD=0.57	M=4.70, SD=0.52	M=4.80, SD=0.65	-0.66	.52
2) Feel happy	M=4.42, SD=0.86	M=4.46, SD=0.77	M=4.36, SD=0.99	0.44	.67
3) Feel content	M=4.37, SD=0.85	M=4.38, SD=0.72	M=4.36, SD=1.04	0.82	.94
4) Friends and family	M=4.87, SD=0.56	M=4.92, SD=0.28	M=4.80, SD=0.82	0.82	.42
5) Enough money	M=4.53, SD=0.72	M=4.57, SD=0.56	M=4.48, SD=0.92	0.47	.64
6) Self-esteem	M=4.11, SD=0.85	M=3.92, SD=0.83	M=4.40, SD=0.82	-2.26	.02*
7) Optimism	M=4.45, SD=0.78	M=4.43, SD=0.69	M=4.48, SD=0.92	-0.23	.82
8) Received support	M=4.68, SD=0.70	M=4.73, SD=0.51	M=4.60, SD=0.91	0.72	.48
9) Healthy lifestyle	M=4.55, SD=0.76	M=4.54, SD=0.65	M=4.56, SD=0.92	-0.09	.92
10) Hobbies	M=4.71, SD=0.64	M=4.70, SD=0.66	M=4.72, SD=0.61	-0.10	.92
11) Feel loved	M=4.24, SD=0.82	M=4.22, SD=0.63	M=4.28, SD=1.06	-0.28	.77
12) Dialogue	M=4.48, SD=0.81	M=4.49, SD=0.65	M=4.48, SD=1.01	0.31	.96
13) Family traditions	M=3.77, SD=1.14	M=3.65, SD=1.14	M=3.92, SD=1.15	-0.92	.36
Total GRRs wave II	M=58.2, SD=7.1	M=58.2, SD=4.9	M=58.2, SD=9.5	-0.01	.99

* $p \leq .05$, difference is significant

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