

**Promotion of self-efficacy and health-related quality  
of life in socially vulnerable school children:  
the role of the school nurse**

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## ABSTRACT

**Background:** The school is an important setting for promoting social skills that may enhance the health of children. The quality of life of school children may be influenced by social and individual resources such as social support and self-efficacy. Research on adults shows that self-efficacy is an important determinant in improving their quality of life. However, less research has been conducted on the association between self-efficacy and quality of life in children. Bullying can contribute to psychosocial problems and low quality of life in victims of bullying. Children who are bullied or socially withdrawn are vulnerable children that may feel excluded or unsafe at school. Many of these children report that they lack friends, are lonely, and have low self-efficacy at school. Increasing self-efficacy may improve young people's beliefs in their ability to stand up for themselves and to attain their goals in school. Participating in small discussion groups may enhance self-efficacy. The Solution-focused Approach (SFA) is a strength-based approach that emphasizes the resources of individuals and how these can be applied to the change process by focusing on solutions rather than problems. Socially vulnerable children with problems such as withdrawal or being bullied face great challenges in school that may influence their health. For school nurses, co-operating with the school and families to promote health among these children is therefore an important issue. The present thesis – *“Promoting self-efficacy and health-related quality of life in socially vulnerable school children”* – aims further to investigate factors that promote health and to evaluate the effect of an SFA intervention.

**Aims:** The main aim of the present study is to investigate factors that promote psychosocial health in socially vulnerable school children aged 12–13 years. These children are socially withdrawn and are victims of bullying in school settings. The main study consists of three component studies. The aim of the first study is to examine the association between general

self-efficacy (GSE) and health-related quality of life (HRQOL), and to explore how this association is related to socio-demographic characteristics in school children. The aim of the second study is to explore the effect of a group intervention based on the solution-focused approach on self-efficacy among a group of socially withdrawn children and to explore possible sex-based differences. The aim of the third study is to explore how school children experience being bullied, how they envisage their dream day, and what kind of help they want.

**Method:** To reach the main aim, the study consists of three studies. All the participants in these studies were from Eastern Norway and were aged 12–13 years.

The present study consists of three designs: The first study (paper I) is a cross-sectional design. The second study (paper II) is a non-randomized controlled trial, and the third study (Paper III) is a focus group design. The first study assesses the association of GSE and HRQOL among school children. The KINDL questionnaire developed by Ravens-Sieberer & Bullinger was used to measure HRQOL. Schwarzer's questionnaire based on Bandura's concept of self-efficacy was used to measure GSE. The second study is written on the basis of data from a non-randomized control trial and uses Schwarzer's GSE questionnaire in addition to domain-specific self-efficacy developed by Choi et al. In the first study, T-tests were computed to compare mean subscale values between HRQOL and socio-demographic variables. Single and multiple regression analyses were performed to explore associations among GSE, HRQOL and socio-demographic variables. In the second study, analysis of covariance (ANCOVA) was used to compare differences in the mean changes between the experimental and control groups from baseline ( $t_0$ ) to immediately after the intervention ( $t_1$ ) and three months after the intervention ( $t_2$ ). The third study is written on the basis of data from focus-group interviews with a semi-structured interview format. The collection and

analysis of data followed Kvale's guidelines for qualitative research. The studies were performed between autumn 2006 and spring 2008.

**Results:** Results from the first study showed a strong positive significant association between GSE and HRQOL for all subscales and total scales of HRQOL. In the second and third studies, we chose a group of socially vulnerable children with psychosocial challenges, including socially withdrawn children and bullied children. The socially withdrawn children were a target group in the SFA intervention in the second study. The second study showed that the participants increased their level of self-efficacy post intervention. Girls showed a greater increase in GSE immediately after the intervention, whereas boys showed a delayed increase three months after the intervention. The bullied children were the target group in the third study. We explored how they experienced being bullied in a health promotion perspective with focus on their dream day, and what kind of help they wanted. Results from this study showed that their dream day was a day when they felt included by peers, and they wanted help to stop the bullying immediately.

**Conclusion:** The main aim of the present study is to investigate factors that promote psychosocial health in socially vulnerable school children. Socially vulnerable children experience being rejected and excluded, and they need to be helped and included in school. Promoting health by creating a safe school environment and preventing bullying is therefore an important issue for a school health service. Socially vulnerable children need help to improve their social skills and need to receive social support. An intervention such as SFA may improve self-efficacy in socially withdrawn children. The studies included in this thesis reveal the significance of focusing on promoting self-efficacy and health-related quality of life in school children.

## List of papers

- I. Kvarme L.G., Haraldstad K., Helseth S., Sørsum R., Natvig G. K (2009) Association between general self-efficacy and health-related quality of life among 12-13 years old school children: a cross-sectional survey. *Health and Quality of Life Outcomes* 7, 85.
- II. Kvarme L.G., Helseth S., Haugland S., Luth-Hansen V., Sørsum R., Natvig G. K. The effect of a solution-focused approach to improve self-efficacy in socially withdrawn school children: a non-randomized controlled trial. *International Journal of Nursing Studies*. In press 2010.
- III. Kvarme L. G., Helseth S., Sæteren B., Natvig G. K. School children's experiences of being bullied, and how they envisage their dream day. *Scandinavian Journal of Caring Science*. In press 2010.

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## 1.0 INTRODUCTION

School is an important setting for promoting social skills that may enhance the health of children (Mansour et al., 2003; World Health Organisation, 2003). Health promotion comprises actively supporting the physical, social and mental well-being of the individual. Subjective health or well-being is considered important in health promotion (Helseth and Lund, 2005; Ravens-Sieberer et al., 2001b). Research on adults shows that self-efficacy is an important determinant in improving quality of life (Carlsson et al., 2004; Kreitler et al., 2007). There is a lack of research on the association between self-efficacy and quality of life in children. Social skills and health may be improved by increasing self-efficacy (Bandura, 1997; Caprara et al., 2003). Increasing self-efficacy may improve a young person's belief in their ability to assert themselves and reach their goals in school. Life satisfaction and quality of life of school children are likely to be influenced by social and individual resources such as social support and self-efficacy. Danielsen et al. (2009) found that general self-efficacy as an individual agent is strongly related to life satisfaction.

School children aged 12 to 13 years are in a vulnerable life transition from childhood to adolescence. Given the profound developmental changes that occur over a relatively short time during this change, subjective well-being related to friends represents an important factor for the children in this period of life (Jozefiak et al., 2009). Adolescence is a transitional stage between childhood and adulthood. Adolescents must re-establish their sense of efficacy, social connectedness and networks of new peers and with multiple teachers. During this period, the child may lose some sense of personal control and may become less confident and more sensitive to social evaluation by others (Bandura, 1997).

Socially vulnerable children, including socially withdrawn and bullied children, often have negative psychosocial adjustment (Johansen, 2007). Promoting health by creating a safe school environment and preventing bullying is therefore an important issue for school health

services to help these children. Children who are bullied or socially withdrawn are vulnerable and may feel excluded or unsafe at school. Many of these children report being friendless, lonely, and having low quality of life at school (Flaspohler et al., 2009; Johansen, 2007). School children who are socially withdrawn and quiet at school represent a relatively rejected group in schools (Henderson and Zimbardo, 2001b; Pellegrini and Blatchford, 2000). School nurses can advocate on behalf of these children to support and strengthen their psychosocial health (Puskar and Bernardo, 2007).

Previous studies have shown that socially withdrawn children are at risk of developing problems at school. They report lower efficacy for assertive and non-assertive goals compared with peers (Wichmann et al., 2004). Socially withdrawn children need help to improve their social skills (Houck and Stember, 2002; Marchant et al., 2007; Schneider, 2009). Participating in small discussion groups to enhance self-efficacy through the process of learning by listening to shared experiences is also characterized as vicarious experience through modelling (Bandura, 1997). The Solution-focused Approach (SFA) is a strength-based approach that emphasizes the resources of individuals and how these can be applied to the change process by focusing on solutions rather than problems (DeJong and Berg, 2002; Smith, 2010; Trepper et al., 2006). A review of earlier SFA interventions found that SFA improved factors such as psychosocial adjustment (Corcoran and Pillai, 2009).

Socially vulnerable children with problems such as withdrawal or being bullied face challenges in school that may influence their health. Many of these children experience being rejected and excluded, and they need to be helped and included in school. It is the school nurse's role to co-operate with the school and families to help these children. The present thesis – *“Promoting self-efficacy and health-related quality of life in socially vulnerable school children”* – aims to investigate further factors that promote health and to evaluate the effects of an SFA intervention.

## **2.0 AIMS OF THE STUDY**

The main aim of the present study is to investigate factors that promote psychosocial health in socially vulnerable school children aged 12–13 years, such as those who are socially withdrawn and those who are being bullied in school settings. To achieve the main aim, the study consists of three component studies.

The main objectives of the studies are as follows.

Study 1: To examine the association between general self-efficacy (GSE) and health-related quality of life (HRQOL) in a sample of Norwegian school children, and to explore how this association is related to socio-demographic characteristics.

Study 2: To explore the effects of a group intervention based on SFA on self-efficacy among a group of socially withdrawn children, and to explore possible sex-based differences.

Study 3: To explore how school children experience being bullied, how they envisage their dream day, and what kind of help they want.

## **3.0 THEORETICAL FRAMEWORKS AND CONCEPTS**

### **3.1 School children and psychosocial challenges**

Puberty is a period of hormonal, cognitive, and emotional changes that might be challenging for children (Essex et al., 2003; O'Connor, 2006; Rutter, 2003). Pubertal changes interact with psychosocial factors to contribute to the development of self-efficacy. The level of self-efficacy differs across individuals according to age and personal experiences. Developmental transitions may follow different courses for girls and boys. Previous studies show that girls report lower self-esteem (Arif and Rohrer, 2006; Jozefiak et al., 2008; Jozefiak et al., 2009) and self-efficacy (Luszczynska et al., 2005) than boys.

The most important social arenas for children are school and family (Samdal et al., 2009). Schools are places of learning and development, and they can promote healthy development of school children. Previous research has shown that a positive psychosocial environment at school and support from classmates, teachers and parents have direct positive effects on a child's life satisfaction (Danielsen et al., 2009). Perceived life satisfaction refers to a global, cognitive judgment of one's life (Pavot et al., 1991). It shares some similarities with, but is not the same concept as, quality of life or health-related quality of life (HRQOL). Life satisfaction is measured by a global life satisfaction and requires respondents to make overall life assessments (Huebner et al., 2005) unrelated to specific domains as measured by HRQOL. Life satisfaction is considered an important indicator of positive psychological well-being (Huebner et al., 2005). Previous research found that most children and adolescents reported a high level of life satisfaction (Samdal et al., 2009). Nevertheless, there are some school children who are socially vulnerable in their daily lives at school because of being socially withdrawn or being bullied. One of the greatest threats to well-being for school children today is the psychosocial challenges that arise from the experience of being excluded or bullied (Christie-Mizell, 2003; Due et al., 2005; Rigby, 2003). From a health promotion perspective, school nurses should be involved in preventing bullying and exclusion of children, and they should also provide resources for children who have been bullied. The school health service has an important and central role in health promotion work with children and adolescents (Svavarsdottir and Orlygsdottir, 2006). There is a need for regular communication among children, parents, teachers and health care professionals to identify bullying incidents (Fekkes et al., 2005; Hendershot et al., 2006).

### **3.1.1 School children who have been bullied**

Bullying is a considerable problem in schools, because of its complex nature and serious negative consequences for the health of child victims (Cassidy, 2009; Christie-Mizell, 2003; Natvig et al., 2001). Bullying is not a new phenomenon. The first systematic study of bullying was done in 1970 by Dan Olweus. Olweus understands bullying to be a systematic and repeated set of hostile behaviours towards an individual who cannot properly defend herself/himself (Olweus, 1994). The prevalence of being bullied is in the range of 10–30% in different European countries and in the USA (Analitis et al., 2009; Nansel et al., 2001). In Norway, about 10–15% of school children between eight and 13 years are exposed to bullying (Vatn et al., 2007), and younger children are more exposed to bullying than older children (Samdal. et al., 2009).

Previous research found that children who had been bullied showed more internalizing of problems and unhappiness at school than those who had not been bullied (Arseneault et al., 2006). Children who had been bullied had lower self-esteem and less support, and more social isolation, psychological distress, unhealthy behaviour, and social exclusion than those who had not been bullied (Cassidy, 2009; Dao et al., 2006). Other studies found that victims of bullying had more difficulty making friends, had poorer relationships with classmates, and often had greater feelings of loneliness than those who had not been bullied (Fox and Boulton, 2006; Nansel et al., 2001). During puberty, great changes within both the individual and the social environment are evident. In this period, support from others is important. Social support can be defined as: “A well-intentional action that is given willingly to a person with whom there is a personal relationship and that produces an immediate or delayed positive response in the recipient” (Hupcey, 1998; 313). Social support is considered protective against bullying (Carvalhosa, 2008).

Bullying can contribute to development of psychosocial problems and low quality of life for the victims of bullying (Flaspohler et al., 2009; Svavarsdottir and Orlygsdottir, 2006). Psychosomatic symptoms among victims of school bullying include low mood, irritability, stomach pain and headaches. Sometimes bullying can even lead to suicide (Cassidy, 2009; Houbre et al., 2006). Bullying may occur directly or indirectly. Indirectly, bullying may be social exclusion from peers. A child who is bullied is characteristically anxious, unsure, quiet, careful and vulnerable (Olweus, 1992; Roland, 2003) and often less popular among peers (Boulton et al., 1999; Johansen, 2007). Introverted and socially isolated children are at risk of being bullied and may be more socially withdrawn because they are frightened of being bullied (Estell et al., 2009; Johansen, 2007). Research on bullying has usually been conducted using quantitative methods (Thornberg, 2010). There is a need to explore how children experience bullying from their own perspective and what help they need.

### **3.1.2 Socially withdrawn school children**

A quiet and socially withdrawn child can have difficulties at school if she/he feels excluded or invisible. Social withdrawal can be defined as “the consistent display (across situations and over time) of all forms of solitary behaviour when encountering familiar and/or unfamiliar peers” (Rubin et al., 2006). In a review of studies across European countries and the USA, about 30% of children and adolescents reported moderate problems of withdrawal, and about 10% reported serious problems, such as being rejected or isolated (Chazan et al., 1998). There are many different terms used when describing the socially withdrawn and quiet child; e.g., shy behaviour, introversion, withdrawn behaviour and social anxiety (Greco and Morris, 2001; Lund, 2008; Zimbardo, 2001). When school children’s quietness leads to their being rejected, preventing them from speaking up for their rights and expressing their own opinions, it becomes a problem for them and their surroundings. To be a quiet and “invisible”

child in school might contribute to emotional and behavioural problems such as anxiety and depression (Marchant et al., 2007).

There may be many reasons why a person is characterized as shy, introverted or socially withdrawn. The lack of social interaction may result from a variety of causes, including social fear and anxiety or a preference for solitude (Johansen, 2007; Rubin et al., 2009; Schneider, 2009). Social withdrawal may be characterized as passive withdrawal or active isolation. Passively withdrawn children prefer to be alone even if they could possibly be included with peers. Active isolation represents children who want to be included but are excluded from the fellowship of peers (Johansen, 2007; Younger, 1993). Some children are socially withdrawn at school but not at home. Isolation, avoidance, and problems with finding friends often characterize introverted children (Johansen, 2007; Ogden and Sorlie, 2001). Socially withdrawn children are often among the least popular of their peers (Johansen, 2007). When they are excluded by peers, they may lack experience in social competence and skills that are needed to assert membership, and they may become even more isolated. Furthermore, they may have experiences of being rejected, which may make them even more vulnerable. Factors contributing to social withdrawal include personal characteristics, as well as factors in the environment at school, or the interactions between personal characteristics and the environment (Johansen, 2007).

Many children develop close friendships during puberty (Pellegrini and Blatchford, 2000). In developing friendships, they have opportunities to develop social skills and social support. Socially withdrawn children spend less time interacting with peers and isolate themselves from peer groups. Withdrawn children demonstrate more passive and avoidant social responses than their peers (Rubin et al., 2002). Previous research shows that many socially withdrawn and quiet children suffer from loneliness. Even those who reported having



friends also lacked certain qualities in their friendships, such as loyalty, intimacy and pleasurable companionship (Lund, 2008; Schneider, 2009).

Socially withdrawn children more often have significant psychosocial maladjustment and are often targets of peer victimization (Rubin et al., 2003). Withdrawn children also have difficult relationships with their teachers, such as not being able to ask for help in the class. Children who are passive in school may experience disrupted development of their social skills. Socially passive children have been demonstrably associated with shyness and low perceived social competence (Paulsen et al., 2006; Paulsen and Bru, 2008). Socially withdrawn children are at risk for a wide range of negative adjustment outcomes, including socio-emotional difficulties (e.g., anxiety, low self-esteem, depressive symptoms, and internalizing problems) and school difficulties (Rubin et al., 2009). Introverted school children with psychosocial problems and anxiety are overlooked in Norwegian schools (Heiervang et al., 2007).

### **3.2 Health-related quality of life**

Quality of life (QOL) has become an important concept in the health sciences in recent decades. There has been an exponential increase in research interest in quality of life (Draper and Thompson, 2001). QOL is an important parameter for evaluating the quality and outcome of health (Fayers and Machin, 2007; Moons et al., 2006).

The purpose of measuring QOL is to determine what factors promote quality of life and health (Moons et al., 2006). QOL is an expression of positive well-being, and it relates to happiness or satisfaction with one's life as a whole (Wilson and Cleary, 1995). It is generally associated with positive values such as happiness, success, wealth, health and satisfaction based on individual subjective perceptions. In the philosophical sense, QOL expresses the characteristics of the "good life" and happiness (Tatarkiewich, 1976).

Consensus is lacking for a definition of QOL. The concept covers a variety of concepts such as functioning, health status, perception, behaviour, happiness and life style (Moons et al., 2006). Næss (2001) defines QOL as a psychological phenomenon with emphasis on subjective well-being and reflects how an individual experiences and evaluates her/his life as a concept of her/his “inner quality of life”.

QOL may be defined differently and may comprise different meanings or perspectives within different studies and professional groups. Quality of life is often used as a general construct to describe subjective physical and psychosocial variables. Thus, quality of life seems to include various concepts such as health status, perceptions, life conditions, behaviour, happiness, lifestyle and health symptoms (Moons et al., 2006). Spilker (1996) provides an introductory framework for QOL in health care. According to Spilker, quality of life may be structured at three different levels in a health context. The first is the individual’s overall assessment of her/his satisfaction with life. The second is the generic assessment of physical, psychological, social, economic, and spiritual life domains. The third level includes the components of each domain that are assessed: for instance, disease-specific symptoms and disabilities (Spilker, 1996). This thesis focuses on Spilker’s first and second levels.

HRQOL refers to a more narrow definition of QOL and is linked to the World Health Organization (WHO) definition of health. HRQOL is a multidimensional construct that consists of physiological, psychological and functional aspects of well-being and function as seen from the individual’s own perspective (Ravens-Sieberer et al., 2001a). It emphasizes life domains directly related to a person’s health (Koot and Wallander, 2001). It can be used as an outcome measure for school children’s subjective well-being, and for developing methods to promote their HRQOL (Helseth et al., 2006). HRQOL is a multidimensional construct. Relevant aspects may vary across studies but can include general health, functioning and social well-being (Fayers and Machin, 2007). QOL is an evaluation of an individual’s current

life circumstances based on values measured by the subjective indicators of the person's capable self-report (Moons, 2006). There is a lack of studies of school children's QOL in the general population (Jozefiak, 2008). Quality of life has become an important concept in evaluating health care and understanding what contributes to promoting health and well-being for children and adolescents. A qualitative study of adolescents' perceptions of quality of life has shown they emphasize the importance of peer relations and self-image in psychosocial health (Helseth and Misvaer, 2010).

### **3.3 Social cognitive theory and self-efficacy**

Albert Bandura has developed the theory of social learning, later called social cognitive theory, it provides a unified theoretical framework for analysing human thought and behaviour. The theory describes how behaviour is learned and modified by experience. This theory looks at social behaviour as a continuous interaction among cognitive, behavioural and environmental factors (Bandura, 1997). We learn social behaviour in a social context by observing and imitating significant others. Our actions are influenced by our expectations of the outcome, our efficacy and our interpretation of the consequences of our actions in social relationships. In social cognitive theory, people exercise control for the benefits they gain from it (Bandura, 1997).

The concept of self-efficacy is based on one of the most useful and applicable notions of social learning (Tones and Green, 2004). Bandura defines self-efficacy in the following terms: "Perceived self-efficacy refers to beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997; 3). Bandura captured the power of positive thinking in his self-efficacy theory. Self-efficacy is about how competent we feel regarding a task. When we believe in our own competence, we are more persistent, less anxious and healthier persons. Your belief that you can do something depends

on your control over the outcome. Self-efficacy comprises both general and domain-specific measures. General self-efficacy (GSE) is the belief in one's competence to tackle difficult or novel tasks and to cope with adversity in specific demanding situations (Cross et al., 2006; Luszczynska et al., 2005; Scholz et al., 2002). It makes a difference in how people feel, think and act (Bandura, 1997). The construct of GSE reflects an optimistic self-belief (Schwarzer, 1994) and refers to a global confidence in coping ability across a wide range of demanding situations (Schwarzer, 1994).

Self-efficacy is a concept that can promote the health of school children. Self-efficacy beliefs will depend substantially on a history of successes or failures in past experiences of mastery. Children have beliefs about the extent to which they possess the skills and capabilities they need to achieve their goals. Active goal setting will occur to the extent that children believe they are capable of achieving the goal (Tones and Green, 2004). A person who believes that she/he is able to produce a desired effect can lead a more active and self-determined life. A belief in "can do" cognition provides a sense of control over one's environment (Scholz et al., 2002). A high level of self-efficacy is related to positive emotions and effective problem solving (Bandura, 1997). High self-efficacy beliefs are also related to life satisfaction (Danielsen et al., 2009; Gilman and Huebner, 2003). Socially withdrawn children report lower scores on self-efficacy than their peers (Wichmann et al., 2004).

### **3.4 A health promotion intervention**

Health promotion intervention aims to help individuals control their own health by stimulating their strengths and resources (Gibson, 1991, WHO, 1986). Health promotion may be defined 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 a group must be able to identify and to realize aspirations, to satisfy needs, and to change or

cope with the environment” (WHO, 1986). The concept of health underlying this definition is a wide one, emphasizing social and personal resources as well as physical factors, and may be regarded as a resource for everyday life. Belief in oneself is dependent on connecting with other people.

Participating in groups may have a health-promoting effect of contributing to elimination of isolation and social withdrawal and may promote a feeling of belonging, which is an important factor in positive health and well-being (Heap, 2005). Children can listen to and support one another when experiencing that they are not alone with the same problem. They may increase their social skills and competence by modelling one another when they participate in groups. When the children discuss existential problems and explore their future, a health promotion effect may result. Intervention in groups may contribute to social support for the group members. Previous research has shown that group participation can empower group members (Stang and Mittelmark, 2009).

Empowerment that includes promotion of a sense of control and mastery of life is important to health promotion and is regarded as a state of positive health. Gibson (1991; 359) defines empowerment as: “a social process of recognizing, promoting and enhancing people’s abilities to meet their own needs, solve their own problems and mobilize the necessary resources in order to feel in control of their own life”. Empowerment involves increasing self-efficacy and may promote positive health. It focuses on solutions rather than problems and emphasizes people’s strengths and abilities (Gibson, 1991). A peer support group is a form of social relations that involves being role models and sharing experiences for people with the same problem (Stang and Mittelmark, 2008). Each participant in a small group acts as a model for the other participants when articulating experiences, attitudes and beliefs, and may inspire others to consider and adopt alternative perspectives and ways of acting and coping.

A study of shy girls found that they felt invisible and wanted help to be included at school (Lund, 2008). The girls wanted to be challenged by the adults to step forward, talk and participate in class and group sessions. They also wanted to be more visible and preferred to talk in small groups rather than in the class (Lund, 2008). Groups in schools that aim to improve the social skills of children with shyness, social anxiety (Aune et al., 2009) and behavioural problems are well known (Greco and Morris, 2001; Henderson and Zimbardo, 2001a). Some programmes that aim to promote social competence in school have found that the intervention has positive effects on externalizing problems but no effects on internalizing problem behaviour (Holsen et al., 2008; Sørli and Ogden, 2007). The school nurse may act as a facilitator for small groups of socially withdrawn children to learn social skills and to develop friendships (Houck and Stember, 2002). Solution-focused approach (SFA) is an example of such an approach.

SFA is a system of communication outlined by Insoo Kim Berg and Steve de Shazer that may be used as an intervention for individuals or a group (DeJong and Berg, 2002). SFA assumes that individuals possess the necessary resources to resolve their own problems. Attention is focused on a future without the problem, and people are encouraged to find the solution that fits their own world-view (Corcoran and Pillai, 2009; DeJong and Berg, 2002; DeSchazer, 1994). SFA is a future-focused and goal-oriented approach that utilizes questions designed to identify exceptions and solutions (Smith, 2010; Trepper et al., 2006).

The first step in SFA conversation is to establish a good relationship between the helper and the client, and the client describes her/his problem. Active listening is very important for good communication and co-operation with the client. The second step is to develop a clear and realistic goal from the problem. The helper may then ask the miracle question: can the client describe an ideal day without the problem? The third step is to look for exceptions and resources and to use the scale question (from 0 to 10). The client indicates

on the scale where she/he is today in relation to the goal. Exceptions are about when the problem is gone or is not so big. The fourth step is construction of small steps that can take the client towards the goal. At the end of the conversation is a feedback process (DeJong and Berg, 2002).

A review of the treatment outcome research to determine the effectiveness of SFA found that in about 50% of studies, improvement followed the intervention. The outcomes included: goal attained, self-esteem, psychosocial adjustment and improved mood (Corcoran and Pillai, 2009). The majority of the studies were in social service. Only one study was conducted in a school setting. SFA is a relevant method for nurses as it focuses on health and well-being, and is oriented towards empowering the individual (Bowles et al., 2001; Ferraz and Wellman, 2008). A study of the effectiveness of SFA in a school setting showed that it was effective in improving internalizing and externalizing behaviour problems (Franklin et al., 2008).

Bandura emphasizes four sources of skills in building up self-efficacy. These are: enactive mastery experience, vicarious experience, verbal persuasion, and strengthening physical and affective status (Bandura, 1997). Mastery experience comes from an experience of being able to perform a desired behaviour. Mastery experience is integrated into an SFA intervention by writing individual goals and providing feedback on the performance of different tasks. Vicarious experience or modelling is fostered by sharing experience and learning from peers who successfully perform valued activities such as talking in the class and asking to join in play. Verbal persuasion is trying to persuade others that one has the capability to achieve one's goals. The participants in the SFA intervention may strengthen their affective status by obtaining support from group members, teachers, the school nurse and parents.

Previous research has found that self-efficacy might improve through interventions (Marks et al., 2005). GSE is related to life satisfaction across cultures (Luszczynska et al., 2005). We expected that an SFA intervention would improve self-efficacy among participants.

### **3.5 School health service and the school nurse role**

School health services aim to promote health and to prevent illness. A school health service includes school nurses, a school doctor and a physiotherapist. The school nurse is the most available practitioner in the school health service. In Norway, the service is regulated by the municipal health service law of 1982 no. 66. §1-3 states that the municipalities have a responsibility to organize efforts for all children and adolescents from 0 to 20 years of age in the school health service (National Board of Health, 1998). These new standards and directions are aimed at changing the focus of these services from: problem to resource orientation, individual to group-oriented work, and expert to counsellor, giving the client a more active part in the process. To make these changes, co-operation is needed on several levels (Hjälmhult, 1999). The municipalities are allowed to decide how to organize the service. In the regulation on health services in the schools authorized by the law, §2 states the following about the purpose of the school health services: *The school health services are supposed to work to promote the students' total health, and prevent illnesses, injuries, or defects. The school health services are – in co-operation with home, the school, and the possible other instances involved – to work to identify and solve the health problems especially associated with the students' situation.*

The school health service is also included by the regulation of the prevention and promotion of health in public health services and school health services of 3 April 2003 §1-1.



The aim of the regulation is to promote physiological and psychological health, to promote good social and environmental conditions and to prevent illness and injury.

Nursing as a profession and research area has developed from Florence Nightingale's description of nursing focus and action (Donaldson and Crowley, 1992; Meleis, 1997). The earliest influences on health promotion in nursing can be traced to Nightingale, who realized the importance of environmental determinants of health and thus provided a broader perspective than merely illness and disease (Morgan and Marsh, 1998). Nightingale viewed nursing as public health work. For school nurses, health promotion practice will mean considering social and environmental factors as well as individual factors (Norton, 1998). Socially vulnerable children with psychosocial problems such as withdrawal or being bullied are great challenges in school. It is the school nurse's role to help these children. The Norwegian school health services guide emphasizes that nurses should pay more attention to methods that empower children to control factors that promote their health, well-being and self-efficacy (National Board of Health, 1998).

## **4.0 MATERIALS AND METHODS**

### **4.1 Design**

To achieve the main aim, the thesis consists of three component studies. All the participants in these studies were from Eastern Norway and were aged 12–13 years.

The present study consisted of the three following designs.

Study 1: A cross-sectional design. Quantitative method (Paper I)

Study 2: A non-randomized controlled trial. Quantitative method (Paper II)

Study 3: A focus group interview. Qualitative method (Paper III)

## Study 1

The cross-sectional study consisted of data from school children who completed a survey assessing their GSE and HRQOL at one measurement time. The children were from schools that had been randomly selected using cluster sampling. The study was performed between October 2006 and April 2007.

## Study 2

An overview of the non-randomized control trial study is shown in Table 1.

**Table 1** Study design for study 2

<b>Weeks</b>	<b>0</b>	<b>1–6 weeks</b>	<b>6 weeks</b>	<b>12 weeks</b>
Intervention Group	Pre-test ( $t_0$ )*	Intervention: six group sessions	Post-test ( $t_1$ )*	Post-test ( $t_2$ )*
Control Group	Pre-test ( $t_0$ )*	Ordinary health programme	Post-test ( $t_1$ )*	Post-test ( $t_2$ )*

\*Pre-test ( $t_0$ )\* and post-test ( $t_1$ ),\* ( $t_2$ )\* questionnaires on GSE (general self-efficacy), SSE (social self-efficacy) and ASE (assertive self-efficacy).

The non-randomized intervention trial consisted of experimental and control groups. The primary outcomes of the study were changes in GSE, SSE, and ASE. The participants completed self-efficacy questionnaires at three measurement times. The study was performed in 14 primary schools between autumn 2006 and spring 2008. The intervention was performed by the school health services personnel within each school over six consecutive weeks. The standard health programme was maintained as usual.

### **Study 3**

In study 3, we used a qualitative study with an explorative design, and data were collected through focus group interviews. Data collection was conducted throughout 2007 and during the spring of 2008. The sample consisted of 17 school children, in four different groups. The collection and analysis of data followed Kvale's (2007) guidelines for qualitative research, which imply a phenomenological hermeneutic mode of understanding. Kvale states that the research interview should attempt to understand the world from the subject's point of view, to unfold the meaning of the pupil's experiences, and to reveal her/his world. Thus, an understanding was sought through the experiences of school children who have been bullied. The children's experiences were interpreted from a QOL and SFA perspective.

## **4.2 Study population**

### **4.2.1 Subjects and characteristics**

The study population consisted of school children, girls and boys, all in the seventh grade from eastern Norway. Study 1 used a randomly selected representative sample of school children; Statistics Norway drew a cluster sample of randomly selected schools. The sample was drawn according to population density, school size, and school level. In study 2, the sample was conveniently selected according to the schools at which the participating school nurses worked. The participants were socially withdrawn children selected from an inclusion list. In the third study, participants were self-recruited following information given in the class. The participants were children who belonged to two of the same schools as study 2, but the children in the third study had been bullied at school.

### **4.2.2 Recruitment**

Recruitment of the participants varied in the three papers.

Study 1 included children with sufficient competence in the Norwegian language. The sample in this study consisted of 444 eligible school children in the seventh grade (age 12–13 years). Of these, 279 participated (the response rate was 63%). Eighty-three children (19%) had not obtained informed consent from parents, 41 children (9%) were absent from school on the day of the study, 30 children (7%) received the wrong questionnaire, and 11 children (2%) declined to participate. Statistics Norway drew a cluster sample of 11 randomly selected primary schools.

Study 2 included school children in the seventh grade (age 12–13 years) who met the inclusion criteria. The criteria were based on teacher and school nurse observations of behaviour in the school setting according to a specified list. The list included children who do not speak up or seldom talk in the class, have few or no friends at school, receive little attention from others, are often alone for intervals of time, show fear or anxiety in the school setting, are worried in new situations, show avoidance characteristics and are often passive. For the socially withdrawn children, one or more of the above characteristics are observed regularly. An exclusion criterion for the study was lack of Norwegian language competence. Based on these criteria, school nurses co-operated with teachers to select the children. An overview of respondents and drop-outs at different points of time ( $t_0$ ,  $t_1$ ,  $t_2$ ) is shown in Figure 1 in paper II.

Study 3 included children in the seventh grade who had been exposed to bullying and were competent in the Norwegian language. The sample consisted of school children (age 12 to 13 years) from seven different classes in two different schools in Eastern Norway. The participants were self-recruited after the first author provided information to the entire class.

### **4.3 Instruments and interview guide**

The questionnaire used in the present study contained socio-demographic data including sex, siblings, and parents. The socio-demographic data are presented in Table 1 in paper I. Paper I also presents marital status, parents' birthplaces and relocation in the last five years. In addition, the questionnaire also included HRQOL and self-efficacy.

#### **4.3.1 HRQOL**

The Norwegian translation of the German questionnaire KINDL (Kinder Lebensqualität Fragerbogen) was used to measure HRQOL. KINDL was developed by Ravens-Sieberer & Bullinger (Ravens-Sieberer and Bullinger, 1998) for use in epidemiological studies of healthy and clinical groups of children and adolescents aged 4–16 years. The questionnaire was developed as a generic measure. However, some disease-specific modules are available and can be added to the generic measure. Only the generic instrument was used in the present study. The measurement is easy to use and suitable for use in school health services. The form consists of 24 Likert-scaled items divided equally into six subgroups (physical well-being, emotional well-being, self-esteem, family, friends and school). Each item refers to experiences over the past week and is rated on a five-point scale (1=Never, 2=Seldom, 3=Sometimes, 4=Often and 5=Always). A subjective component asks the child to evaluate satisfaction with their life conditions. Examples are: “During the last week I felt fine at home” and “I got along well with my friends”. Mean scores are calculated for each of the six subscales and for the total scale, and are linearly transformed to a 0–100 scale according to the manual (Ravens-Sieberer and Bullinger, 2000). The KINDL has been translated into Norwegian and has shown satisfactory reliability and validity in healthy school children (Helseth et al., 2005, Jozefiak et al., 2008). The internal consistency (Cronbach's  $\alpha$ )

of KINDL was from 0.53 to 0.78 for the subscales and 0.82 for the total scales in the Norwegian study (Helseth and Lund, 2005).

#### **4.3.2 Self-efficacy**

##### *General self-efficacy*

Schwarzer et al.'s (1997) general perceived self-efficacy questionnaire based on Bandura's concept of self-efficacy was used to measure general self-efficacy (GSE). The GSE scale is a 10-item psychometric scale that is designed to assess optimistic self-belief in coping with a variety of difficult demands in life. The scale was originally developed in Germany by Matthias Jerusalem and Ralph Schwarzer in 1981 and has been used in many studies with hundreds of thousands of participants (Schwarzer et al., 1997). The scale was created to assess a general sense of perceived self-efficacy, with the aim of predicting ability to cope with daily demands as well as adaptation after experiencing stressful events. A revised five-item version of this instrument was used in the first study (Røysamb et al., 1998, Ystrom et al., 2008). In the second study, the 10-item scale was used. Røysamb et al. (1998) translated the Norwegian version of the general perceived self-efficacy scale. This tool has been tested for its psychometric properties in several countries, including Norway (Leganger et al., 2000; Schwarzer et al., 1997). A typical item is: "I always manage to solve difficult problems if I try hard enough." The GSE scale has been found to be reliable in numerous studies, where the Cronbach's  $\alpha$  was between 0.75 and 0.90 (Schwarzer et al., 1997). It has also shown convergent and discriminate validity. It correlates positively with self-esteem and optimism (Schwarzer et al., 1997).

### *Domain-specific self-efficacy*

An instrument was used to measure domain-specific self-efficacy as SSE (four items). A typical item was: “How well can you make and keep friends of the opposite sex?” ASE (three items) was also measured. A typical item was: “How well can you express your opinions when other classmates disagree with you?” In the second study, the domain-specific English items were translated in accordance with accepted translating procedures. These tools have satisfactory validity and reliability for use with school children (Choi et al., 2001). Cronbach’s  $\alpha$  ranged from 0.76 to 0.83 in social-self-efficacy and 0.79 to 0.84 in assertive self-efficacy (Choi et al., 2001). With all instruments, the participants rated the items on a five-point scale from 1 (“completely wrong”) to 5 (“completely right”). Higher scores indicated higher levels of GSE and domain-specific self-efficacy (Choi et al., 2001). Pilot studies were carried out for all the instruments in this thesis.

#### **4.3.3 Interview guide**

For the qualitative study, a semi-structured interview guide was used in the focus group interview. The interview guide contained open-ended questions covering aspects of being bullied and elements of the SFA that emphasized the dream day (Table 1 in paper III).

The participants’ responses were audio-taped, transcribed and coded into themes. The data were analysed according to Kvale’s three contexts of interpretation within a phenomenological and hermeneutic framework.

#### **4.4 Intervention**

The intervention in paper II is a standardized programme based on SFA (also called “reteaming”), developed by Ben Furman and Tapani Ahola (Furman, 2009). The programme is designed to help children strengthen their social skills. This approach builds on the

presumption that the child has a difficulty because of a skill that she/he is lacking. Its goal is to devise a set of skills that helps the child overcome the problem according to her/his goal. The main objectives of SFA are to increase the participants' self-efficacy and to help them reach their individual goals. The intervention consisted of six consecutive weekly meetings of one hour each. Before the study, the school nurses participated in a standardized programme on SFA. The groups were led by school nurses, who used a reteaming workbook (translated into Norwegian). The topics discussed at each meeting are summarized in Table 1 in paper II. At the first meeting, the participants described their dream day. The dream day is similar to the answer to the miracle question, a description of a day in which the problem is gone. By elaborating on their dream day, the participants selected their own personal goals. At each meeting, the participants discussed how they could reach their selected goals and the progress they had made. The children supported one another and were also encouraged to use their teacher as a support person in working towards their goals. The participants' homework was to focus on their weekly progress in terms of their goals.

The school nurse wrote an evaluation of the group session after each meeting to ensure that the same interventions were offered. The principal investigator had frequent meetings with the school nurses to ensure intervention fidelity.

#### **4.5 Data collection**

##### **Study 1: Cross-sectional study**

Data collection was carried out from October 2006 to April 2007. The school children were recruited through schools in a region of eastern Norway.

##### **Study 2: Intervention study**

The study was performed within the school health services of 14 primary schools in eastern Norway from 2006 to 2008.



### Study 3: Focus group interview

Data were collected during 2007 and the spring of 2008 in schools in eastern Norway.

## 4.6 Data analysis

### *Quantitative analysis*

For study 1, descriptive analyses were used in the cross-sectional study (paper I) to assess the mean and standard deviation of HRQOL (subscales and total scale) for socio-demographic variables and GSE (total). Cronbach's  $\alpha$  was computed to assess the reliability of the questions. T-tests were done to compare mean subscale values of HRQOL according to groups of socio-demographic variables. Socio-demographic variables that showed significant differences for any subscale were included in the regression analyses. To evaluate the associations among HRQOL as a dependent variable, socio-demographic variables, and GSE as an independent variable, single and multiple regression analyses were performed.

Regression analyses were performed to evaluate the association among HRQOL, and socio-demographic variables and GSE. Both single and multiple regression analyses were performed. In the multiple models, we included HRQOL as a dependent variable, and gender (girls versus boys), marital status (two parents married or cohabiting) versus single parent (unmarried, divorced or widowed), relocation in the last five years (yes versus no), mother's birthplace (Norway versus other country), and GSE as independent variables.

According to the manual (Ravens-Sieberer and Bullinger, 2000), the missing values of KINDL and GSE were imputed with the mean of the non-missing items if the respondent had answered at least 70% of the items in the actual subscale. HRQOL and GSE were transformed on a scale from 0 to 100. GSE was analysed as a total score. A p-value of less than or equal to 0.05 was considered statistically significant. All analyses were conducted using SPSS Version 15 for Windows (SPSS Inc., Chicago, Illinois).

In study 2, the intervention study, we used a power analysis. An estimated 63 participants were required in each group to achieve a power of 80%, a significance level of 5%, and an effect size of 0.5 (Polit and Beck, 2004). Data were missing for 5% of the GSE and SSE items and for 2% of the ASE items. The missing data were substituted separately for each individual by imputing the mean of the non-missing items if the child had answered at least 70% of the items within the self-efficacy category. The scores were then transformed onto a scale of 0 to 100.

Descriptive statistics were computed for the demographic variables. Analysis of covariance (ANCOVA) was used to compare differences in the mean changes between the experimental and control groups from baseline ( $t_0$ ) to immediately after the intervention ( $t_1$ ) and three months after the intervention ( $t_2$ ). The baseline scores for GSE, SSE, and ASE were included in the model to take into account any possible ceiling effect and to reduce the variability within subjects, whereas “group” (experimental and control) was added as a factor. ANCOVA was performed for both sexes combined and separately. The mean changes from  $t_0$  to  $t_1$  and from  $t_0$  to  $t_2$  are presented with the associated 95% confidence intervals. Groups with non-overlapping confidence intervals were considered statistically different. A  $p$  value of less than or equal to 0.05 was considered statistically significant.

We used paired  $t$  tests to compare differences within groups over time. The analysis was performed separately for the two periods  $t_0-t_1$  and  $t_0-t_2$ . All participants who answered the questionnaire both at baseline ( $t_0$ ) and after the intervention ( $t_1$  or  $t_2$ ) were included in the analysis. A 95% confidence interval, not including zero, was considered a significant change over time.

Cohen’s effect size was calculated by dividing the difference in the mean change between the experimental group and control group by the pooled standard deviation of the two groups (Thalheimer and Cook, 2002). The effect sizes were judged against the standard

criteria proposed by Cohen (1978): small effect 0.2, medium effect 0.5, and large effect 0.8 (Cohen, 1978). Cronbach's  $\alpha$  was computed to assess the internal consistency of the scales. All analyses were performed using SPSS software (version 16 for Windows; SPSS Inc., Chicago, IL, USA).

### *Qualitative analysis*

In study 3, the focus group interview, analysis consisted of reading and re-reading the text of the transcribed focus group interviews in order to obtain an overall understanding of the text, then dividing it into themes and subthemes. The data were analysed according to the guidelines set down in Kvale's qualitative interview method (Kvale, 2007), which has a phenomenological and hermeneutical framework. Kvale offers three levels of interpretation: self-understanding, critical understanding based on common sense, and theoretical understanding. Self-understanding is the first level and consists of what the informants said and intended to mean. Each focus group session was analysed separately to understand its meaning. Interpretation was a circular process that moved back and forth from parts of the text to the text as a whole and back again (Kvale, 2007).

At the second level of critical understanding, the researcher uses common sense and a critical view to interpret and comment on what the informants had said in each focus group. The focus group interviews are then analysed as a whole to find common patterns or differences among groups. This interpretation has a broader frame for understanding the informants. The background, position and preconceptions of the researcher affect what is being investigated and the perspective of the investigation (Malterud, 2001). Our preconceptions were based on our backgrounds as school nurses and researchers.

At the third level of theoretical understanding, a theoretical framework is used to interpret the text by using some dimensions of QOL and elements from the SFA. Research

findings from other studies were also used to broaden the perspective. To validate the interpretations, two independent researchers (the first and second authors), both public health nurses, read and interpreted the interviews and further discussed the interpretations to reach agreement. Malterud (2001) claims that multiple researchers might strengthen the validity of the results by supplementing and contrasting one another's statements.

To illustrate the analytic process, one example of a respondent's self-understanding in emotional reactions was a girl who said: "Nobody wants to be with me. They just say: 'Get away'". An example of common sense was "left alone and being excluded", and theoretical understanding was shown in the discussion where QOL is connected to being bullied and the dream day. The dream day was mentioned as a day with a good quality of life.

#### **4.7 Ethical issues**

The Regional Committee for Medical Research Ethics for Western Norway approved the study. Written informed consent for the participation of the children was obtained from the children and their parents before the questionnaires and the focus groups were administered. The children were informed that their responses would be treated anonymously and that there were no correct or incorrect answers. In the intervention study, the children selected for the control group were informed that they would be invited to join an SFA programme after the study period.

Ethical principles in research include the principles of respect for human dignity, justice and beneficence. Some of the participants in the present study population consisted of rather vulnerable subjects, and it was therefore very important to assess all ethical aspects to prevent any of the participants experiencing any harm or overload (Polit and Beck, 2004). The moderator followed professional practice and ensured that no information from the findings of the study would identify any individual study participant.

Although the intervention study and the focus group study were designed to maximize good and to minimize harm (Polit and Beck, 2004), participants in such groups can lead to emotional stress that may not be handled in the group alone. The school nurse was therefore available for the participants after the session. Participants were informed that their participation in the study was voluntary. The information provided to the parents and children included the aims of the study, data collection procedures and the fact that participation was voluntary. The letter also assured participants that they could cease participation in the study at any time without any consequences. Participants were asked not to talk about the content of the discussion in the focus group with anyone other than those in their own group. All participants signed the informed consent paper with these rules before they joined the study. They were asked to create a trusting atmosphere by showing respect and listening carefully to other participants. They were also invited to have a follow-up talk with the school nurse or the moderator. A plan was also in place to maintain safety if the participants needed more help after the focus group interview.

## **5.0 MAIN RESULTS**

Characteristics of the study sample and summaries of the individual papers comprising this thesis are presented below.

### **5.1 Characteristics of the study sample**

The main characteristics of the study sample are presented in Table 2. Socio-demographic characteristics are shown in Table 1 in paper I. The characteristics of the participants in paper II are shown at baseline.

**Table 2** Characteristics of the study sample

	<b>Study 1</b>	<b>Study 2</b>	<b>Study 3</b>
Age	12–13 years	12–13 years	12–13 years
Total	279	156	17
Girls	152	99	14
Boys	127	57	3

All the participants in this thesis were recruited through schools in a region of eastern Norway comprising urban and rural districts. In study 1, the sample consisted of 11 randomly selected primary schools. The schools varied in size from between 30 and 565 children. In study 2, the sample consisted of children from 14 different primary schools. The schools varied from between 60 and 580 school children. In study 3, the sample represented two different schools, one with 300 children and the other with 400 children.

The findings of the studies are presented in the following section.

### *Original papers*

## **5.2 Paper I**

The aim in the first study was to examine the associations between GSE and HRQOL, as well as associations among HRQOL and socio-demographic characteristics of a sample of 12–13-year-old school children. Results from this study showed a strongly positive significant association between GSE and HRQOL. An increasing degree of GSE is related to an increasing degree of HRQOL for all subscales and total scales of HRQOL in the school children. This result was consistent for both boys and girls. The strongest association was for self-esteem, but even physical well-being was significantly, albeit weakly, associated. In analysis adjusted for socio-demographic variables, boys scored higher than girls on self-

esteem. Respondents with a single parent had lower scores on the emotional well-being subscale and the total HRQOL score compared with those who had two parents, and children who had relocated within the last five years had lower scores on HRQOL than those who had not relocated.

### **5.3 Paper II**

The aim in the second study was to explore the effect of a group intervention based on an SFA to improve self-efficacy in socially withdrawn school children and to explore possible sex-based differences. This study suggests that it is possible to influence the self-efficacy of 12–13-year-old, socially withdrawn children with a school-based intervention using SFA. The scores for GSE increased among girls in the experimental group immediately after the intervention, compared with those of the control group, with an effect size of 0.60. The mean score for the girls was significantly higher in the experimental group (9.8) than the control group (0.8) ( $p=0.01$ ). No significant change was observed among the boys at the same time. From baseline to three months after the intervention, the self-efficacy scores increased in the experimental group for both sexes. At the second measurement, the boys also showed significant changes in GSE and assertive self-efficacy (ASE).

### **5.4 Paper III**

The aim of the third study was to explore school children's experiences of being bullied, how they envisaged their dream day, and what kind of help they wanted. Four main themes were identified: teasing and fighting, emotional reactions to being left alone or excluded, the need for friends in order to achieve the dream day, and stopping the bullying immediately. The main findings of this study were that the participants felt helpless, lonely and excluded when they were bullied. Their dream day was a day when everyone was included and friendly to one another. The dream day was described as the opposite of being

bullied and excluded; it was a day when they had good feelings and had good friends to be with. The dream day was also a day when they experienced a good quality of life and feelings of happiness and social support. They wanted more help from the school staff to stop the bullying. Participants' perspectives of having experienced bullying, their dream day and previous research are discussed.

## **6.0 DISCUSSION**

The discussion is divided into three parts: methodological considerations, general discussion of main findings, and possible implications.

### **6.1 Methodological considerations**

The work in this thesis was conducted using both quantitative and qualitative approaches including standardized questionnaires, and a qualitative approach with a focus on group interviews. Different methodologies were used to respond to the different aims of the study. This discussion includes methodological considerations and reflections on the findings. Each study has inherent strengths and weaknesses in its methodology and its interpretation of the findings. It is therefore crucial to identify and discuss these factors. The appropriateness of the methods used is discussed in the following section.

#### **6.1.1 Methodological considerations in study 1**

The design of the first study was appropriate for obtaining knowledge about associations between HRQOL and general self-efficacy among school children. This study has a cross-sectional design. A cross-sectional design is appropriate for describing the status of a phenomenon or relationships among phenomena at a fixed time (Polit and Beck, 2004). A sample is externally valid to the extent that the study sample is representative of the broader



population (Polit and Beck, 2004). The sample is evaluated as representative of the respective population, because the sample represents one county in eastern Norway, including rural, semi-rural, and urban children.

There may be some problems with measuring quality of life among children (Koot and Wallander, 2001). Can the children provide a useful subjective evaluation about their life conditions? This depends on their current situation, past history, and future expectations. Children can have limited exposure to varying life conditions. They may evaluate poor conditions quite favourably because they do not have other experiences on which to base their evaluation. Children live in the “here and now” and do not always have a sense of time (past, present, and future). On the other hand, it may be an advantage to use the child’s report because the child knows best how she/he feels, which is the subjective perspective described by WHO. Quality of life outcomes will add important knowledge in regard to how the children feel and how they behave (Koot and Wallander, 2001).

Another advantage of the approach was that the researcher was present when the children completed the questionnaires at school, helped to clarify questions, assisted children with reading difficulties, and emphasized confidentiality, thereby reducing possible bias in the collection of the data.

### *Instruments*

This section discusses data quality and the reliability and validity of the instruments used. Assessment of reliability consists of determining whether a scale or instrument yields reproducible and consistent results (Fayers and Machin, 2007).

### *KINDL*

To measure HRQOL, the KINDL questionnaire was chosen. KINDL has satisfactory reliability and validity, and its psychometric properties have been tested in several countries

including Norway (Helseth and Lund, 2005). Cronbach's  $\alpha$  was from 0.53 to 0.78 for the subscales and 0.82 for the total scales in the Norwegian study (Helseth and Lund, 2005). In another Norwegian study of school children in the sixth grade, Cronbach's  $\alpha$  was from 0.55 to 0.71 for the subscales and 0.86 for the total scales (Jozefiak et al., 2008). This is in line with findings in the first study, where Cronbach's  $\alpha$  was from 0.61 to 0.79 for the subscales and 0.82 for the total scale (Kvarme et al., 2009).

### *General self-efficacy*

To measure GSE, the general self-efficacy scale based on Bandura's self-efficacy concept was chosen. A revised five-item version of this instrument was used in the present study (Røysamb et al., 1998; Ystrom et al., 2008). The GSE scale has been found to be reliable and valid in numerous studies, where the Cronbach's  $\alpha$  was between 0.75 and 0.90 (Schwarzer et al., 1997). This is in line with findings in the first study, where Cronbach's  $\alpha$  was 0.79 (Kvarme et al., 2009). It has also been shown to be valid in terms of convergent and discriminate validity (Schwarzer et al., 1997). Criterion-related validity is documented in numerous correlation studies, where positive coefficients were found with favourable emotions, dispositional optimism, and work satisfaction. Negative coefficients were found with depression, anxiety, stress, burn-out, and health complaints (Schwarzer et al., 1997).

### **6.1.2 Methodological considerations in study 2**

As the aim of the second study was to explore the effect of an SFA intervention on self-efficacy in socially withdrawn school children, a quasi-experimental design was chosen. The non-randomized control study provides the greatest methodological challenges. True experiments offer the most convincing evidence concerning the effects of one variable on another. Experiments include manipulation that involves the intervention that constitutes the

independent variable, a control group that refers to a group from the same sample used as a basis for evaluating the performance of the experiment group, and randomization (Polit and Beck, 2004). Although non-randomized experiments possess a high degree of internal validity because of manipulation and control, there still can be threats to this internal validity because of a lack of randomization (Lund, 2002).

One method of evaluating the adequacy of a research design is to evaluate its internal and external validity. Internal validity is attained when the findings can be shown to result only from the effect of the independent variable of interest. External validity is attained when the results can be generalized to situations outside the specific research setting (Polit and Beck, 2004). Non-randomized control trials have greater threats to internal validity, and the researcher must be aware of competing explanations for the results. Threats include the history of the participants or other external events that we cannot control (Polit and Beck, 2004).

A threat to validity is the lack of randomization. However, the sample for this study was selected by the teachers and the school nurse, who knew the children well and identified the participants from the inclusion criteria. School children were assigned to the experimental or control group from the same class; thus, the children shared the same environment. Furthermore, a possible Hawthorne effect (Polit and Beck, 2004) may have been present in this study. Participants in the control group may have changed their behaviour because they knew they were being included in a study.

When randomization is not feasible, alternative methods of controlling intrinsic subject characteristics include using subjects who are homogeneous with respect to those variables that are considered extraneous. In this study, the participants were rather homogeneous. All participants were the same age and belonged to the same class, both groups (experimental and control) were socially withdrawn, and boys and girls were also studied

separately. In addition, there were no significant differences between the groups at baseline (Polit and Beck, 2004).

According to the power analysis, it would have been desirable to have 63 participants in each group. All the participants who met the inclusion criteria and consented to participate were included in the study. There were few drop-outs from the intervention study and the drop-outs were similar to children in the experimental and control groups. Recruiting more participants was complicated, because of a lack of time for the trained school nurses to take more groups. Despite the reduced power, the intervention showed a statistically significant effect of reasonable size. However, this study needs to be replicated in larger studies to analyse the effect.

### *Instruments*

#### *General self-efficacy (GSE)*

Schwarzer's (1997) questionnaire based on Bandura's conceptualization of self-efficacy was used to measure general self-efficacy (10-item scale). The GSE instrument is described in 6.1.1.

#### *Domain specific self-efficacy*

Instruments to measure domain specific self-efficacy as social self-efficacy (SSE) and self-assertive self-efficacy (ASE) were also used. These tools have satisfactory validity and reliability for school children (Choi et al., 2001). The Cronbach's  $\alpha$  was between 0.76 and 0.83 in SSE, and between 0.79 and 0.84 in ASE (Choi et al., 2001).

### **6.1.3 Methodological considerations in study 3**

The aim of the third study was to explore how school children experience being bullied and what kind of help they want. To obtain knowledge of how school children

experienced being bullied and what help they wanted, a qualitative design using focus group interviews was chosen. Several issues regarding validity and reliability of the data collected through this interview are already discussed in paper III. Additional efforts to improve the quality of this study are discussed here. Process evaluation was performed after each interview. A detailed plan was performed in advance of the focus group interview to ensure that the quality of the data was as good as possible. This planning included the interview being performed in a “neutral” room with no disturbances, refreshments being offered during the sessions, a backup recorder being used in case of a malfunction in the recorder, and a detailed interview guide being developed to facilitate the discussion (Table 1 in paper III). Because the members of all groups participated actively on the topic of interest and provided important information according to their experiences, we can conclude that a focus group interview was an appropriate method that worked well in this study.

In qualitative research, reliability concerns the trustworthiness of the procedures and the data generated (Roberts et al., 2006), and as in quantitative research, reliability is necessary for validity. The degree of reliability in qualitative research is largely a function of the degree of transparency achieved regarding the methods used to produce, analyse, and interpret data so that the research quality can be evaluated by others (Halkier, 2006).

Validity in qualitative research is evaluated in relation to language, dialogue and participant utility. As Kvale (2001) emphasizes, knowledge verification in qualitative research is based on the understanding that knowledge is contextual, personal and related to society, and rooted in daily living and experiences. Therefore, one needs to establish what is referred to as communicative validity, which is to examine critically how, why, and with whom the dialogue takes place (Kvale, 2001). Another approach to achieving validity in this study was to present systematically and to discuss critically methods, findings, and data interpretation with academic colleagues and researchers at research seminars and conferences during the

project period. This approach aimed to obtain interpretive insight and to assure the trustworthiness of the interpretation (Kvale, 2001).

## **6.2 General discussion of the main findings**

### **6.2.1 Promoting factors that improve health-related quality of life and self-efficacy**

The main aim of this thesis was to investigate factors that promote health-related quality of life and self-efficacy among 12–13 year-old school children. In the first study (paper I), we explored and found a positive association between GSE and HRQOL. In the second study (paper II) and the third study (paper III), a group of socially vulnerable children with psychosocial challenges, including socially withdrawn children and bullied children, was chosen. The socially withdrawn children were a target group in the SFA intervention (paper II). The intervention study showed that the participants increased their level of self-efficacy after the intervention. The bullied children were the target group in the third study (paper III). We explored how they experienced being bullied within a health promotion perspective with focus on their dream day, and what kind of help they wanted. Results from this study showed that their dream day was a day when they felt included by peers and that they wanted help to stop the bullying immediately.

Assessing HRQOL can give helpful information regarding how children are evaluating their quality of life at a certain time. HRQOL measurement is well matched to nursing because it involves variables that are important to nursing, such as holistic consideration of the person's life (Bredow et al., 2009). According to Spilker (1996), quality of life may be structured at three different levels in a health context. The second level is the generic assessment of different life domains such as HRQOL. Research has shown that self-efficacy is among the key determinants of health and quality of life among adults (Carlsson et al.,

2004; Kreitler et al., 2007). There is a lack of research on HRQOL and psychosocial factors that may enhance the well-being of school children (Jozefiak et al., 2008).

Compared with previous research on adults (Carlsson et al., 2004; Kreitler et al., 2007; Scholz et al., 2002), one may maintain that the first study (Paper I) has developed new knowledge about a positive relationships between GSE and HRQOL in healthy school children. This finding is consistent with the results of a previous study that found that GSE was related to life satisfaction in healthy students (Danielsen et al., 2009). The main finding in paper I was that GSE was significantly and positively associated with HRQOL. An increasing degree of GSE was related to an increasing degree of HRQOL on all subscales and total scales of HRQOL. This finding indicates a potential to implement an intervention with components that may improve self-efficacy and HRQOL among school children. Based on previous research on school children that found positive outcomes when using SFA for children with behaviour problems (Franklin et al., 2001; Newsome, 2005), we assumed that SFA may be a suitable intervention to improve self-efficacy.

In the second study (paper II), socially withdrawn children were selected because they were identified as a group who were expected to have lower scores on self-efficacy and who could potentially improve in self-efficacy. The level of self-efficacy increased post-intervention in the experimental group. To our knowledge, this is the first study that has explored the effect of an SFA intervention on socially withdrawn school children.

The participants in the intervention study received social support from group members and significant others. Previous research found that social support from teachers and parents improved well-being among school children (Danielsen et al., 2009; Natvig et al., 2003). In the SFA intervention, the focus is on the future wishes, dreams, resources, possible solutions and attaining goals. The children chose their own goals and worked on their competence in expressing their opinions. That is one of the important life skills that is required for

individuals to take an active part in altering the conditions that affect their health (Kalnins et al., 1992). When the children are involved in decision-making, they are likely to experience empowerment, which is included in the definition of health promotion (WHO, 1986). Bandura (1997) emphasized the motivating power of personal goals that are short term, because they provide immediate incentives and guides for current pursuits. When people select their own goals, they are likely to have greater self-involvement in achieving them (Bandura, 1997). To build a sense of controlling efficacy, people must develop skills for regulating their own motivation and behaviour. They must set short-term attainable subgoals to motivate and direct their efforts, and must enlist positive incentives and social supports to sustain the effort needed to succeed. Once empowered with skills and a belief in their own capabilities, people are better able to adopt behaviours that promote health (Bandura, 1997).

Positive cognitive reappraisals that focus on the aspects of one's life that are personally controllable can increase perceived efficacy, which activates many adaptive processes extending the particular coping skills taught in an intervention (Bandura, 1997). In the first study, we found that socially withdrawn children had lower GSE scores than a representative sample of similarly aged school children (Kvarme et al., 2009). However, the participants achieved the same mean GSE score as that of the representative sample immediately after the SFA intervention.

Socially withdrawn children are not a homogeneous group. Some of them prefer to be alone sometimes, while others want help to become more socially skilled (Schneider, 2009). Socially withdrawn children tend to be less popular, more often rejected and excluded by peers in comparison to children who are not withdrawn. They are more at risk of being bullied and may withdraw even more from peers to protect themselves against bullying. When they withdraw, they miss the opportunity to learn social skills, which they could learn in



interactions with peers, and they may become even more isolated and lonely (Johansen, 2007).

According to Kalnins et al. (1992), a principle in health promotion and empowerment is that the children themselves must define the problem as important and must participate in decision-making. The children in this study identified their problems and chose which skill they would work on according to their selected goal. They were also active in decision-making in the SFA group process. Health promotion interventions aim to empower people to control their own health by mobilizing and stimulating their strengths, abilities, and resources, thus increasing their ability to solve problems and to cope with challenges of living (Gibson, 1991; WHO, 1986). Health promotion interventions are more likely to be successful if they respond to the needs recognized by individuals (Tones and Green, 2004).

The Ottawa charter emphasizes the importance of people taking control over their health to improve it (WHO, 1986). In this study, by taking control, the children then have the possibility to promote their own health. It is easier to influence factors that are related to health than to influence health itself (Klepp et al., 1995). One such factor is represented by self-efficacy in this study. It is also important to remember that health is connected not only to individual factors but also to environmental and social conditions (Klepp et al., 1995).

Many nursing studies focus on self-efficacy outcome expectations to predict behaviour, but only a few studies have tested interventions developed to strengthen self-efficacy (Resnick, 2009). Most self-efficacy research in nursing related to health promotion has focused on adults, with few studies on children (Resnick, 2009). That is why intervention studies among children are needed. The intervention study (paper II) in this thesis explores the effect of an intervention developed to strengthen self-efficacy in socially withdrawn school children.

Children learn new behaviours by observing others in a social context at school. Supporting positive behaviour, attaining goals and believing in a future may increase self-efficacy. If the children feel more competent in school, it may lead to making more friends, becoming more visible and talking more in class (Bandura, 1997). SFA has some similarities with Bandura's social learning theory. These similarities include supporting positive behaviour, attaining realistic goals, emotional support, and believing in future efficacy. The items in the self-efficacy measurement are phrased in terms of "can do" rather than "will do". "Can" is a judgment of capability; "will" is a statement of intention (Bandura, 1997; 43). Bandura (1997) stated four principle sources of improved self-efficacy beliefs: performance mastery, vicarious experience, verbal persuasion, and self-evaluation of physiological information and emotional states. Performance mastery is the strongest source, and this was emphasized in the SFA intervention by encouraging the participants to be aware of their own progress and what they had managed to accomplish according to their goal. In social cognitive theory, perceived efficacy to exercise control over potentially threatening events plays a central role in anxiety arousal. People who believe that they can exercise control over threats do not frighten themselves. Those with a high sense of efficacy viewed their social reality as a challenge, whereas those with low perceived efficacy viewed it as a threat. Peers serve as a major agency for the development and validation of self-efficacy. Children who regard themselves as socially withdrawn perceive low acceptance by their peers and have a low sense of self-worth (Bandura, 1997) and lower efficacy for assertive goals than peers (Wichman et al., 2004). The second study has developed new knowledge on how group interventions based on an SFA increase self-efficacy in socially withdrawn children.

Nevertheless, it is important to ask whether the SFA intervention had an effect. It may be difficult to determine whether the SFA intervention had a specific beneficial effect or whether gains are attributable to non-specific effects of having a regular contact with the

school nurse and other group participants. Studies that use different group interventions, in addition to a control group, would shed light on this question. As previous intervention studies among school children with social anxiety have demonstrated (Aune and Stiles, 2009), this study also resulted in a small effect size, according to Cohen (1978). Even a small effect size may have a clinical effect for the children involved in the intervention (Aune and Stiles, 2009). In the present study, the process that may lead to a change in the dependent variable, self-efficacy, may be explained as follows. Through the empowering dialogues, based on SFA, and appropriate challenges, the participants may increase their awareness of their resources and their ability to use them to reach their goal. Previous research showed that psychosocial factors predict health along with the experience of subjective well-being. Self-efficacy was also associated with subjective well-being, feeling happy, and support from teachers (Natvig et al., 2003).

### **6.2.2 Bullied school children's dream day at school**

Another group of socially vulnerable children who may be rejected by peers are bullied children. In the third and qualitative study (paper III), the participants reported negative feedback from their peers, and they felt excluded and left alone when they were bullied. Victims of bullying are associated with internalization behaviour. They often report health complaints, less happiness and life satisfaction (Carvalhosa, 2008). Previous research also found that victims of bullying reported a lower level of social support from their classmates, friends, and teachers. Children who are rejected by peers are also more prone to becoming victims of bullying (Carvalhosa, 2008). These negative factors may decrease their feelings of well-being and quality of life. This is in line with Næss (Næss, 2001), who defined quality of life as psychological well-being with cognitive or affective experiences.

A factor that may have increased the children's perceptions of a good quality of life was when they talked of their dream day and what they needed to reach their dream day so that they could be included and have good friends. Previous research also suggests that friends are the most important factor in school children's QOL (Helseth and Misvaer, 2010). The experience of being bullied gave rise to negative emotions such as feelings of helplessness and powerlessness. Feelings of powerlessness stand in contrast to empowerment, which increases an individual's sense of control and well-being (Gibson, 1995). In the focus group interview, the children could make their voices heard. The participants could get a sense of control in their situation by expressing their experiences. When the participants talked of their dream day, they mentioned being included and having good friends with them. The focus on what can be done to stop the bullying and who they can get help from was helpful for them. The children reported that they wanted to be acknowledged, and their experience of being bullied to be believed. A previous study found that the teacher has a crucial role in the prevention of bullying behaviour at school. Teachers need to be aware of maintaining a good environment in the classroom and school setting, and they should support those who are bullied (Carvalhosa, 2008).

The participants in the third study talked of longing to be loved and included. Their dream day was not only a day without bullying but also a day when they experienced good QOL. The bullied children talked of feeling happy, having good friends, getting support and feeling safe when they talked of their dream day. On a dream day, they experienced an overall QOL, according to Spilker's first level of QOL (Spilker, 1996). QOL includes subjective feelings of happiness and well-being (Berglund et al., 2006; Næss, 2001) and is positively related to support from peers (Natvig et al., 2003).

In line with previous research (Natvig, 2003; Barboza et al., 2009; Flaspohler et al., 2009), the bullied children reported that support from friends, teachers and the school nurse

was helpful. Social support from friends and teachers may decrease the incidence of bullying (Barboza et al., 2009; Flaspohler et al., 2009). Social support may help the bullied children to be more included by peers and to make friends. Previous research also showed that having good friends is important for experiencing a good quality of life (Helseth and Misvaer, 2010). Small groups in which the school children can learn social skills and develop friendships are important for improving the health and quality of life of socially vulnerable children. Groups of children with the same problem may be helpful, because they can learn from, and support, one another. Solidarity, equality, support, help and knowledge development through experience-based dialogue are considered important group qualities (Adamsen, 2002).

### **6.3 Possible implications**

#### **6.3.1 Clinical implications for school nurses**

The school nurse's role is to promote health and to prevent illness, and to support children with social, emotional, or physical problems at school. This includes helping socially vulnerable children such as those children who are being bullied or are socially withdrawn at school to promote psychosocial health.

According to the National Association of School Nurses in the USA, the school nurse has a multifaceted role within the school setting, one that supports the physical, mental, emotional and social health of students and their success in the learning process (Wolfe, 2006, NASN, 2001). In Norway, school nurses are appointed by the municipalities, and many of them work in maternal and child health centres in addition to schools (WHO, 1999). In the past, school health services focused more on hygiene and prevention of infection and diseases, whereas currently other aspects are included, such as children's psychological and social health. This change of focus means that the work of the school nurses has developed from health control to health promotion (Barnes et al., 2004). The health promotion work of today

is concerned with encouraging and helping individuals to take control of factors that influence their health (Borup, 1998; Reutersward and Lagerstrom, 2010).

School nurses need knowledge and evidence-based methods to help vulnerable children with psychosocial problems. Through this study, we developed new knowledge of how bullied children experience life at school. The bullied school children reported that they felt excluded and wanted to be included by peers and that the bullying must be stopped immediately so that they could achieve their dream day at school. Being bullied is a serious problem because of its long-term consequences for the health of those children that experience bullying (Nansel et al., 2001). Because of the serious consequences for the children's health, the school nurse should co-operate with teachers and families to help the bullied children and to prevent bullying. Some of the findings from the focus group interview were that the participants experienced support from the school nurse and that she/he helped them to strengthen their self-esteem. These findings are in line with previous research on the school nurse's role in school bullying, which showed that school nurses worked to strengthen the children's self-esteem and social network (Kvarme, 1998). Borup (1998) found that children wanted to talk with the school nurse about bullying. The study showed that 50% of pupils contacted the school nurse when they had problems (Borup, 1998). Svarvarsdottir (2006) found in her study of school children aged 10–12 that bullied children who visited the school nurse perceived their HRQOL to be significantly lower than children who were not bullied and did not visit the school nurse at the same time. Findings from the third study showed that the bullied children thought it was helpful to talk to the school nurse about their feelings.

Socially withdrawn children and bullied children may share the same experiences of being excluded and rejected by peers. The intervention study demonstrates that socially withdrawn children can benefit from a group SFA intervention and reach their goal, because

they can learn from each other, share feelings and experiences, and receive support. By attaining a short-term goal, the children had positive experiences that may improve their self-efficacy. A higher level of self-efficacy may help socially withdrawn children to attain their goals and to be more visible at school. When they believe in their own competence, they will become healthier (Bandura, 1997). Perceived competence seems to be important for increasing perceived life satisfaction for school children (Danielsen et al., 2009). It is important for the school nurse to be aware of socially vulnerable children with psychosocial problems and to co-operate with teachers and parents to identify these children and to offer help. According to the children's needs, the school nurse may offer either individual or small group discussions to the children. In group discussion, it is important to emphasize a safe environment where the participant supports others. By participating in groups, the children may make new friends and feel more included and possibly improve their quality of life at school. Social support is important to nurses because it can explain and suggest nursing interventions to improve health outcomes (Shaffer, 2009). Supporting school children, on both an individual and group basis, is a major task for school nurses (Barnes et al., 2004).

The role of the school nurse has changed over time, and today the focus is on health promotion and quality of life. Barnes et al. (2004) found that a major role for the school nurse is to provide support and health promotion. Health issues addressed by individual consultation were predominantly psychosocial, and nurses promoted and enhanced social skills (Barnes et al., 2004). These findings are consistent with results from this study where the school nurses promote social skills and self-efficacy in socially withdrawn children. The aim of the school health service is to strengthen and improve efforts towards children with special problems and to focus on their strengths and resources (Borup and Holstein, 2004). Health promotion lies within the scope of nursing, which as a caring science involves practices that are restorative, supportive, and promotive in nature. The Ottawa charter (1986), which focuses on health

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promotion and empowerment, has influenced how school nurses perform their duties. Empowerment requires the school nurse to allow the children to define their own problems and to make suggestions regarding solutions. The role of the school nurse as expert is lessened, and her/his role is more one of counselling and advising by, for example, helping children to select their personal goal, as shown in the second study. Experience from the second study (paper II) showed that an SFA intervention was a suitable approach in the school health service that focused on children's resources and may promote the children's perceived self-efficacy.

A previous study found that all the school nurses worked with health promotion on an individual level. To establish health promotion on a general level, communication with school management and the local authorities concerning expectations of what school nurses are able to do is essential. Support for, and understanding of, the school nurse role creates opportunities (Reuterswärd and Lagerstrom, 2010). In line with previous research (Reuterswärd et al., 2010), the focus in this study was at the individual and group levels. However, the school nurse needs to consider social and environmental factors in her/his practice. School nurses and teachers must be aware of the importance of a supportive environment, both in relationships between teachers and children and in the interpersonal relationships of school children. Previous research indicates that social support has a direct influence on health (Natvig et al., 2003). Reuterswärd et al. (2010) found that support from the school was a condition for carrying out health promotion work on a general level for the school nurses.

One limitation of a focus on health promotion may be a lack of time for school nurses to offer health promotion interventions in the school health service. Another limitation to school nursing practice is not being included by the school staff or being perceived as unavailable (Hjälmhult et al., 2002). Experience from the Norwegian part of the European



network of health promotion schools found that it was difficult to achieve close co-operation between the school and the school health service. This co-operation depends on the school including the school health service in its activities, whereas the school health service needs to promote its service better and to be more available (Wold and Samdal, 1999). On the other hand, Hjälmhult (1999) found that the presence of the school nurse in the school could be for as little as one hour a week. The amount of time spent at the school did seem inadequate given the number of school children in the schools. The school nurse spent between seven hours a week in a school with 165 students, and one to two hours a week in a school with 300 students. This represents an average of 18 seconds to 2.5 minutes per student (Hjälmhult, 1999). The undersupply of school health service time in the school could be a great challenge to co-operation. To address the complex health problems of today's children, school nurses should work in collaboration with the school staff as well as the families of the children. Collaborative interdisciplinary work between the two sectors of health and education is needed to promote health in schools (Natvig, 2002).

### **6.3.2 Implications for further research**

In further studies, it is important to include the whole school environment, to use an interdisciplinary focus and to involve school staff and families in the research. SFA intervention studies with Randomized Control Trials and longitudinal studies with higher sample sizes and the possibility to explore gender differences are recommended. In addition, it would have been advantageous to include a group intervention based on a type of intervention other than SFA, in addition to a control group, in order to determine whether SFA principles have a specific beneficial effect, or whether gains are attributable to non-specific effects of having relationships and regular contact with school nurses and group participants.

There is also a need for research to develop and to test effective intervention strategies to respond to school bullying. In addition, more qualitative research on school children's experiences of being bullied is needed. By emphasizing the school children's perspective in the development of intervention strategies, qualitative methods such as individual in-depth interviews and observations illuminate aspects of the children's experiences. In addition, teachers and parents could also be interviewed to understand their perspectives. Research on the effect of interventions that promote health by creating a safe and inclusive school environment in co-operation with school health service, school staff, families and children are recommended for further research. Further research on factors that promote health in socially vulnerable school children is also needed.

## **7.0 CONCLUSION**

The main aim of the present study was to investigate factors that promote psychosocial health in socially vulnerable school children. Problems such as withdrawing or being bullied in school are great challenges that may affect the health of socially vulnerable children. Many of these children experience being rejected and excluded, and they need to be helped and included in school. The school nurse's role is to help these children in co-operation with school and families. Promoting health by creating a safe school environment and preventing bullying is therefore an important issue for school health services. Socially vulnerable children need to receive help that may improve their social skills, and social support. Interventions such as SFA may improve self-efficacy in socially withdrawn children. The studies included in this thesis reveal the significance of focusing on promoting self-efficacy and health-related quality of life in school children. In this thesis, we have:

- examined the association between general self-efficacy and health-related quality of life among 12–13 year old school children,

- investigated the effect of an SFA on self-efficacy among socially withdrawn children,  
and
- explored how school children experience being bullied and how they envisage their  
dream day.

## References

- Adamsen,L., 2002. From victim to agent; the clinical and social significance of self-help group participation for people with life-threatening diseases. *Scandinavian Journal of Caring Sciences* 16 , 224-231.
- Analtis,F., Velderman,M.K., Ravens-Sieberer,U., Detmar,S., Erhart,M., Herdman,M., Berra,S., Alonso,J., Rajmil,L., European KIDSCREEN Group, 2009. Being bullied: associated factors in children and adolescents 8 to 18 years old in 11 European countries. *Pediatrics* 123 (2), 569-577.
- Arif,A.A., Rohrer,J.E., 2006. The relationship between obesity, hyperglycemia symptoms, and health-related quality of life among Hispanic and non-Hispanic white children and adolescents. *BMC Fam Pract.* 7 , 3.
- Arseneault,L., Walsh,E., Trzesniewski,K., Newcombe,R., Caspi,A., Moffitt,T.E., 2006. Bullying victimization uniquely contributes to adjustment problems in young children: a nationally representative cohort study. *Pediatrics* 118 (1), 130-138.
- Aune,T., Stiles,T.C., 2009. Universal-based prevention of syndromal and subsyndromal social anxiety: A randomized controlled study. *Journal of Consulting and Clinical Psychology* 77 (5), 867-879.
- Bandura,A., 1997. *Self-efficacy The Exercise of Control*. W.H. Freeman and Company, New York.
- Barboza,G.E., Schiamberg,L.B., Oehmke,J., Korzeniewski,S.J., Post,L.A., Heraux,C.G., 2009. Individual characteristics and the multiple contexts of adolescent bullying: An ecological perspective. *Journal of Youth and Adolescence* 38 (1), 101-121.
- Barnes,M., Coutney,M.D., Pratt,J., Walsh,A.M., 2004. School-Based Youth Health Nurses: Roles, Responsibilities, Challenges, and Rewards. *Public Health Nursing* 21 (4), 316-322.
- Berglund,AL., Claesson,D., Kröldrups,R., 2006. Quality of Life: young people`s interpretation of the concept. *Vård i Norden* 26 (3), 4-8.
- Borup,I.K., 1998. Pupils' experiences of the annual health dialogue with the school health nurse. *Scandinavian Journal of Caring Sciences* 12 (3), 160-169.
- Borup,I., Holstein,B.E., 2004. Social class variations in schoolchildren's self-reported outcome of the health dialogue with the school health nurse. *Scandinavian Journal of Caring Sciences* 18 (4), 343-350.

Boulton, M.J., Trueman, M., Chau, C., Whitehand, C., Amatya, K., 1999. Concurrent and longitudinal links between friendship and peer victimization: implications for befriending interventions. *Journal of Adolescence* 22 (4), 461-466.

Bowles, N., Mackintosh, C., Torn, A., 2001. Nurses' communication skills: an evaluation of the impact of solution-focused communication training. *J Advanced Nursing* 2001 (3), -54.

Bredow, T.S., Peterson, S.J., Sandau, K.E., 2009. Health-Related Quality of Life. In: Peterson, S.J., Bredow, T.S. (Eds.), *Middle range theories: Application to nursing research*. Lippincott, Williams & Wilkins, Philadelphia, pp. 273-285.

Caprara, G.V., Steca, P., Cervone, D., Artisticco, D., 2003. The contribution of self-efficacy beliefs to dispositional shyness: On social-cognitive systems and the development of personality dispositions. *Journal of Personality* 71 (6), 943-970.

Carlsson, A.H., Bjorvatn, C., Engebretsen, L.F., Berglund, G., Natvig, G.K., 2004. Psychosocial factors associated with quality of life among individuals attending genetic counseling for hereditary cancer. *J Genet Couns.* 13 (5), 425-445.

Carvalho, S.F., 2008. Prevention of bullying in schools: an ecological model. In: Faculty of Psychology, Research Center for Health Promotion, University of Bergen, pp. 1-45.

Cassidy, T., 2009. Bullying and victimisation in school children: The role of social identity, problem-solving style, and family and school context. *Social Psychology of Education* 12 (1), 63-76.

Chazan, M., Laing, A., Davis, D., Phillips, R., 1998. *Helping socially withdrawn and isolated children and adolescents*. Cesell education series. Wellington House., London.

Choi, N., Fuqua, D.R., Griffin, B.W., 2001. Exploratory analysis of the structure of scores from the Multidimensional Scales of Perceived Self-Efficacy. *Educational and Psychological Measurement* 61 (3), 475-489.

Christie-Mizell, C.A., 2003. Bullying: the consequences of interparental discord and child's self-concept. *Family Process* 42 (2), 237-251.

Cohen, J., 1978. *Statistical Power Analysis for the Behavioral Sciences*. Academic Press, New York.

Corcoran, J., Pillai, V., 2009. A review of the research on solution-focused therapy. *British Journal of Social Work* 39 (2), 234-242.

Cross, M.J., March, L.M., Lapsley, H.M., Byrne, E., Brooks, P.M., 2006. Patient self-efficacy and health locus of control: relationships with health status and arthritis-related expenditure. *Rheumatology* 45 (1), 92-96.

Danielsen,A.G., Samdal,O., Hetland,J., Wold,B., 2009. School-related social support and students' perceived life satisfaction. *Journal of Educational Research* 102 (4), 303-318.

Dao,T.K., Kerbs,J.J., Rollin,S.A., Potts,I., Gutierrez,R., Choi,K., Creason,A.H., Wolf,A., Prevatt,F., 2006. The association between bullying dynamics and psychological distress. *Journal of Adolescent Health* 39 (2), 277-282.

DeJong,P., Berg,I.K., 2002. *Interviewing for Solution*. Wadsworth Group, Milwaukee, Wisconsin.

DeSchazer,S., 1994. *Words Were Originally Magic*. Norton Company, New York.

Donaldson,S.K., Crowley,D.M., 1992. The discipline of nursing. In: Nicoll,L.H. (Ed.), *Perspectives on nursing theory*. Lippincott, Philadelphia.

Draper,P., Thompson,D., 2001. The quality of life - a concept for research and practice. *NT Research* 6 (3), 649-57.

Due,P., Holstein,B.E., Lynch,J., Diderichsen,F., Gabhain,S.N., Scheidt,P., Currie,C., 2005. Bullying and symptoms among school-aged children: international comparative cross sectional study in 28 countries. *Eur J Public Health* 15 (2), 128-132.

Essex,M.J., Klein,M.H., Cho,E., Kraemer,H.C., 2003. Exposure to maternal depression and marital conflict: Gender differences in children's later mental health symptoms. *Journal of the American Academy of Child & Adolescent Psychiatry* 42 (6), 728-737.

Estell,D.B., Farmer,T.W., Irvin,M.J., Crowther,A., Akos,P., Boudah,D.J., 2009. Students with exceptionalities and the peer group context of bullying and victimization in late elementary school. *Journal of Child and Family Studies* 18 (2), 136-150.

Fayers,P.M., Machin,D., 2007. *Quality of life. The assessment, analysis and interpretation of patient-reported outcomes*. Wiley, Chichester.

Fekkes,M., Pijpers,F.I.M., Verloove-Vanhorick,S.P., 2005. Bullying: who does what, when and where? Involvement of children, teachers and parents in bullying behavior. *Health Education Research* 20 (1), 81-91.

Ferraz,H., Wellman,N., 2008. The integration of solution-focused brief therapy principles in nursing: A literature review. *Journal of Psychiatric and Mental Health Nursing* 15 (1), 37-44.

Flaspohler,P.D., Elfstrom,J.L., Vanderzee,K.L., Sink,H.E., Birchmeier,Z., 2009. Stand by me: The effects of peer and teacher support in mitigating the impact of bullying on quality of life. *Psychology in the Schools* 46 (7), 636-649.

- Fox,C.L., Boulton,M.J., 2006. Friendship as a moderator of the relationship between social skills problems and peer victimisation. *Aggressive Behavior* 32 (2), 110-121.
- Franklin,C., Biever,J., Moore,K., Clemons,D., Scamardo,M., 2001. The effectiveness of solution-focused therapy with children in a school setting. *Research on Social Work Practice* 11 (4), 411-434.
- Franklin,C., Moore,K., Hopson,L., 2008. Effectiveness of solution-focused brief therapy in a school setting. *Children & Schools* 30 (1), 15-26.
- Furman,B., 2009. Reteaming. In: <http://www.reteaming.com>. (accessed December 5, 2009), Helsinki.
- Gibson,C.H., 1991. A concept analysis of empowerment. *Journal of Advanced Nursing* 16 , 354-361.
- Gibson,C.H., 1995. The process of empowerment in mothers of chronically ill children. *Journal of Advanced Nursing* 21 , 1201-1210.
- Gilman,R., Huebner,S., 2003. A review of life satisfaction research with children and adolescents. *School Psychology Quarterly*: 18 (2), 192-205.
- Greco,L.A., Morris,T.L., 2001. Treating childhood shyness and related behavior: empirically evaluated approaches to promote positive social interactions. *Clinical Child and Family Psychology Review* 4 (4), 299-318.
- Halkier,B., 2006. Fokusgrupper. *Samfundslitteratur & Roskilde Universitetsforlag*, Fredriksberg.
- Heap,K., 2005. *Gruppet metode for sosial- og helsearbeidere*. Gyldendal akademisk, Oslo.
- Heiervang,E., Stormark,K.M., Lundervold,A.J., Heimann,M., Goodman,R., Posserud,M.B., Ullebo,A.K., Plessen,K.J., Bjelland,I., Lie,S.A., Gillberg,C., 2007. Psychiatric disorders in Norwegian 8- to 10-year-olds: An epidemiological survey of prevalence, risk factors, and service use. *Journal of the American Academy of Child & Adolescent Psychiatry* 46 (4), 438-447.
- Helseth,S., Lund,T., 2005. Assessing health-related quality of life in adolescents: some psychometric properties of the first Norwegian version of KINDL. *Scan J Car Scienc.*(2), 102-109.
- Helseth,S., Lund,T., Christophersen,K.A., 2006. Health-related quality of life in a Norwegian sample of healthy adolescents: some psychometric properties of CHQ-CF87-N in relation to KINDL-N. *J Adolesc Health*. 38 (4), 416-425.

Helseth,S., Misvaer,N., 2010. Adolescents' perceptions of quality of life: What it is and what matters. *Journal of Clinical Nursing* 19 (9-10), 1454-1461.

Hendershot,C., Dake,J.A., Price,J.H., Lartey,G.K., 2006. Elementary school nurses' perceptions of student bullying. *Journal of School Nursing* 22 (4), 229-235.

Henderson,L., Zimbardo,P., 2001a. Shyness, social anxiety, and social phobia. In: Hofmann,S., DiBartolo,P.M. (Eds.), *From social anxiety to social phobia: Multiple perspectives*. Allyn & Bacon, MA, pp. 46-85.

Henderson,L., Zimbardo,P.G., 2001b. Shyness as a clinical condition: The Stanford model. In: Crozier,W.R., Alden,L.E. (Eds.), *International handbook of social anxiety: Concepts, research and interventions relating to the self and shyness*. John Wiley & Sons Ltd, New York, pp. 431-447.

Hjälmhult,E., 1999. Cooperation between the school and the School Health Services. In: Wold,B., Samdal,O. (Eds.), *Health promotion among young people: the development of healthy school environments*. University of Bergen, Reserach Center for Health Promotion,HEMIL, Bergen, pp. 98-128.

Hjälmhult,E., Wold,B., Samdal,O., 2002. Skolehelsetjenesten og helsefremmende arbeid: Samarbeid mellom helsesøstre og lærere ved de norske skolene i "Europeisk nettverk av Helsefremmende skoler". *Vård i Norden* 22 (63), 42-46.

Holsen,I., Smith,B.H., Frey,K.S., 2008. Outcomes of the Social Competaence Program Second Step in Norwegian Elementary Schools. *School Psychology International* 29 (1), 71-88.

Houbre,B., Tarquinio,C., Thuillier,I., Hergott,E., 2006. Bullying among students and its consequences on health. *European Journal of Psychology of Education* 21 (2), 183-208.

Houck,G.M., Stember,L., 2002. Small group experience for socially withdrawn girls. *The Journal of School Nursing* 18 (4), 206-211.

Huebner,E.S., Valois,R.F., Paxton,R.J., Drane,J.W., 2005. Middle school students' perceptions of quality of life. *Journal of Happiness Studies* 6 (1), 15-24.

Hupcey,J.E., 1998. Social support: Assessing conceptual coherence. *Qualitative Health Research* 8 (3), 304-318.

Johansen,B.K., 2007. Atferdsproblemer og negativ psykologisk tilpasning. En kvantitativ studie av hvordan elever som mobber andre, elever med reaktiv aggresjon, elever med proaktiv aggresjon og elever med innadventd atferd opplever det sosial aspektet ved skolen. NTNU, Trondheim.



Jozefiak, T., Larsson, B., Wichstrom, L., 2009. Changes in quality of life among Norwegian school children: a six-month follow-up study. *Health Qual Life Outcomes* 7, 7.

Jozefiak, T., Larsson, B., Wichstrom, L., Mattejat, F., Ravens-Sieberer, U., 2008. Quality of Life as reported by school children and their parents: a cross-sectional survey. *Health Qual Life Outcomes* 6, 34.

Kalnins, I., McQueen, D.V., Backett, K.C., Curtie, L., Currie, C.E., 1992. Children, empowerment and health promotion: some new directions in research and practice. *Health Promotion International* 7 (1), 53-59.

Klepp, K., Thuen, T., Wilhelmsen, U., 1995. *Ungdom for helse. Fra teori til praksis i helsefremmende arbeid med ungdom.* Kommuneforlaget, Oslo.

Koot, H.M., Wallander, J.L., 2001. *Quality of Life in Child and Adolescent Illness. Concept, Methods and Findings.* Brunner Routledge, New York.

Kreitler, S., Peleg, D., Ehrenfeld, M., 2007. Stress, self-efficacy and quality of life in cancer patients. *Psycho-Oncology* 16 (4), 329-341.

Kvale, S., 2007. *Interviews. An Introduction to Qualitative Research Interviewing.* SAGE. Thousand Oaks, CA.

Kvarme, L.G., 1998. School health services-school nurse and bullying in children's schools. [Norwegian]. *Tidsskriftet Sykepleien*. 86(2):59-61.

Kvarme, L.G., Haraldstad, K., Helseth, S., Sorum, R., Natvig, G.K., 2009. Associations between general self-efficacy and health-related quality of life among 12-13-year-old school children: a cross-sectional survey. *Health & Quality of Life Outcomes* 7, 85.

Leganger, A., Kraft, P., Roysamb, E., 2000. Perceived self-efficacy in health behaviour research: Conceptualisation, measurement and correlates. *Psychol Health*. 15 (1), 51-69.

Lund, I., 2008. 'I just sit there': Shyness as an emotional and behavioural problem in school. *Journal of Research in Special Educational Needs* 8 (2), 78-87.

Lund, T., 2002. Metodologiske prinsipper og referanserammer. In: Lund, T. (Ed.), *Innføring i forskningsmetodologi.* Uniped forlag, Oslo, pp. 79-123.

Luszczynska, A., Gutierrez-Dona, B., Schwarzer, R., 2005. General self-efficacy in various domains of human functioning: Evidence from five countries. *Int J Psych*. 40 (2), 80-89.

Malterud, K., 2001. Qualitative research: standards, challenges, and guidelines. *Lancet* 358 (9280), 483-488.

- Mansour,M.E., Kotagal,U., Rose,B., Ho,M., Brewer,D., Roy-Chaudhury,A., Hornung,R.W., Wade,T.J., DeWitt,T.G., 2003. Health-related quality of life in urban elementary schoolchildren. *Pediatrics* 111 (6), 1372-1381.
- Marchant,M.R., Solano,B.R., Fisher,A.K., Caldarella,P., Young,K.R., Renshaw,T.L., 2007. Modifying socially withdrawn behavior: A playground intervention for students with internalizing behaviors. *Psychology in the Schools* 44 (8), 779-794.
- Marks,R., Allegrante,J.P., Lorig,K., 2005. A Review and Synthesis of Research Evidence for Self-Efficacy-Enhancing Interventions for Reducing Chronic Disability: Implications for Health Education Practice (Part II). *Health Promotion Practice* 6 (2), 148-156.
- Meleis,A.I., 1997. *Theoretical Nursing Development and progress*. Lippincott, New York.
- Moons,P., Budts,W., De,G.S., 2006. Critique on the conceptualisation of quality of life: a review and evaluation of different conceptual approaches. *International Journal of Nursing Studies* 43 (7), 891-901.
- Morgan,I.S., Marsh,G.W., 1998. Historic and future health promotion contexts for nursing. *Image - the Journal of Nursing Scholarship* 30 (4), 379-383.
- Næss,S., 2001. (Quality of life as psychological well-being). *Livskvalitet som Psykologisk velvære*. (Norwegian). *Tidsskr Nor Laegeforen* 121 , 1940-1944.
- Nansel,T.R., Overpeck,M., Pilla,R.S., Ruan,W.J., Simons-Morton,B., Scheidt,P., 2001. Bullying behaviors among US youth: prevalence and association with psychosocial adjustment. *J Am Medical Ass* 16 (285), 2094-100.
- NASN, 2001. Scope and standards of professional school nurses practice. In: *National Association of School Nurses (NASN) (Ed.), American Nurses Publishing, Washington DC*.
- National Board of Health, 1998. *Guidelines for the health stations and the school health services (In Norwegian)*.
- Natvig,G.K., Albrektsen,G., Qvarnstrom,U., 2001. Psychosomatic symptoms among victims of school bullying. *J Health Psychol* 6 (4), 365-377.
- Natvig,G.K., Albrektsen,G., Qvarnstrom,U., 2003. Associations between psychosocial factors and happiness among school adolescents. *International Journal of Nursing Practice* 9 (3), 166-175.
- Newsome,W.S., 2005. The Impact of Solution-Focused Brief Therapy with At-Risk Junior High School Students. *Children & Schools* 27 (2), 83.

Norton,L., 1998. Health promotion and health education: what role should the nurse adopt in practice? *Journal of Advanced Nursing* 28 (6), 1269-1275.

O'Connor,T.G., 2006. The persisting effects of early experiences on psychological development. In: Cicchetti,D., Cohen,D.J. (Eds.), *Developmental psychopathology*. John Wiley &Son, Inc., NJ, US, pp. 202-234.

Ogden,T., Sorlie,M.A., 2001. Social competence in a functional and empirical perspective. [Norwegian]. *Nordisk Psykologi* 53 (3), 209-222.

Olweus,D., 1992. *Mobbing i skolen. Hva vi vet og hva vi kan gjøre*. Universitetsforlaget, Oslo.

Olweus,D., 1994. Bullying at school: basic facts and effects of a school based intervention program. *Journal of Child Psychology & Psychiatry & Allied Disciplines* 35 (7), 1171-90.

Paulsen,E., Bru,E., 2008. Social passivity and grades achieved among adolescents in junior high school. *School Psychology International* 29 (2), 248-262.

Paulsen,E., Bru,E., Murberg,T.A., 2006. Passive students in junior high school: The associations with shyness, perceived competence and social support. *Social Psychology of Education* 9 (1), 67-81.

Pavot,W.G., Diener,E., Colvin,C.R., Sandvik,E., 1991. Further validation of the Satisfaction With Life Scale: Evidence for the cross-method convergence of well-being measures. *Journal of Personality Assessment* 57 (1), 149-161.

Pellegrini,A.D., Blatchford,P., 2000. *The child at school: Interactions with peers and teachers*. London.

Polit,F.D., Beck,T.C., 2004. *Nursing Research. Principles and Methods*. Lippincott Williams & Wilkins, Philadelphia.

Puskar,K.R., Bernardo,L.M., 2007. Mental health and academic achievement: Role of school nurses. *Journal for Specialists in Pediatric Nursing* 12 (4), 215-223.

Ravens-Sieberer,U., Bullinger,M., 1998. Assessing health-related quality of life in chronically ill children with the German KINDL: first psychometric and content analytical results. *Qual Life Res* 5 (7), 399-407.

Ravens-Sieberer,U., Bullinger,M., 2000. KINDL-R Questionnaire for Measuring health-related Quality of life in children and adolescents. In: Revised version (Ed.), KINDL-R. Retrieved from <http://www.kindl.org/>.

Ravens-Sieberer,U., Gosch,A., Abel,T., Auquier,P., Bellach,B.M., Bruil,J., Dur,W., Power,M., Rajmil,L., European KIDSCREEN Group, 2001a. Quality of life in children and adolescents: a European public health perspective. *Sozial- und Praventivmedizin* 46 (5), 294-302.

Ravens-Sieberer,U., Redegeld,M., Bullinger,M., 2001b. Quality of life after in-patient rehabilitation in children with obesity. *Int J Obes Relat Metab Disord.* 25 .

Resnick,B., 2009. Self-Efficacy. In: Peterson,S.J., Bredow,T.S. (Eds.), *Middle range theories: Application to nursing reseach.* Lippincott,Williams & Wikins, Philadelphia, pp. 117-137.

Reutersward,M., Lagerstrom,M., 2010. The aspects school health nurses find important for successful health promotion. *Scandinavian Journal of Caring Sciences* 24 (1), 156-163.

Rigby,K., 2003. Consequences of bullying in schools. *The Canadian Journal of Psychiatry* 48 (9), 583-590.

Roberts,P., Priest,H., Traynor,M., 2006. Reability and validity in research. *Nursing Standard* 18 (20), 41-45.

Roland,E.V., 2003. Zero, SFA\s program mot mobbing. Læreveiledning. Bryne offset, Bryne.

Roysamb,E., Schwarzer,R., Jerusalem,M., 1998. Norwegian Version of the General Perceived Self-Efficacy Scale.

Rubin,K.H., Burgess,K., Kennedy,A., Stewart,S., 2003. Social withdrawal in childhood. In: Mash,R.E.J. (Ed.), *Child Psychopatology*, 2 nd. Guilford Press, New York, pp. 372-406.

Rubin,K.H., Burgess,K.B., Coplan,R.J., 2002. Social withdrawal and shyness. In: Smith,P.K. (Ed.), *Blackwell handbook of childhood social development.* Blackwell Publishing, Malden, pp. 330-352.

Rubin,K.H., Coplan,R.J., Bowker,J.C., 2009. Social withdrawal in childhood. *Annual Review of Psychology* 60 , 141-171.

Rubin,K.H., Wojslawowicz,J.C., Rose-Krasnor,L., Booth-LaForce,C., Burgess,K.B., 2006. The Best Friendships of Shy/Withdrawn Children: Prevalence, Stability, and Relationship Quality. *Journal of Abnormal Child Psychology* 34 (2), 143-157.

Rutter,M., 2003. Commentary: Nature-nurture interplay in emotional disorders. *Journal of Child Psychology and Psychiatry* 44 (7), 934-944.

Samdal,O., Leversen,I., Torsheim,T., Manger,M.S., Brunborg,S.G., Wold,B., 2009. Trender i helse og livsstil blant barn og unge 185-2005. Norske resultater fra studien "Helsevaner blant

skoleelever. En WHO undersøkelse i flere land". In: HEMIL-rapport 3/2009, HEMIL-senteret, Universitetet i Bergen, pp. 1-200.

Schneider,B.H., 2009. An observational study of the interactions of socially withdrawn/anxious early adolescents and their friends. *Journal of Child Psychology and Psychiatry* 50 (7), 799-806.

Scholz,U., Dona,B.G., Sud,S., Schwarzer,R., 2002. Is general self-efficacy a universal construct? Psychometric findings from 25 countries. *Eur J Psych Ass.* 18 (3), 242-251.

Schwarzer,R., 1994. Optimism, vulnerability, and self-beliefs as health-related cognitions: A systematic overview. *Psychol Health.* 9 (3), 161-180.

Schwarzer,R., Bassler,J., Kwiatek,P., Schroder,K., 1997. The assessment of optimistic self-beliefs: Comparison of the German, Spanish, and Chinese versions of the General Self-efficacy Scale. *Appl Psychology.* 46 (1), 69-88.

Shaffer,M.A., 2009. Social support. In: *Middle range theories: Application to nursing research.* Lippincott, Williams, & Wilkens, Philadelphia, pp. 163-188.

Smith,S., 2010. A preliminary analysis of narratives on the impact of training in solution-focused therapy expressed by students having completed a 6-month training course. *Journal of Psychiatric and Mental Health Nursing* 17 (2), 105-110.

Sørliie,M.-A., Ogden,T., 2007. Immediate Impacts of PALS: A school-wide multi-level programme targeting behaviour problems in elementary school. *Scandinavian Journal of Education Research* 51 (5), 471-492.

Spilker,B., 1996. *Quality of life and pharmacoeconomics in clinical trials.* Lippincott-Raven, Philadelphia.

Stang,I., Mittelmark,M.B., 2008. Social support and interpersonal stress in professional-led breast cancer self-help groups. *The International Journal of Mental Health Promotion* 10 (2), 15-25.

Stang,I., Mittelmark,M.B., 2009. Learning as an empowerment process in breast cancer self-help groups. *Journal of Clinical Nursing* 18 (14), 2049-2057.

Svavarsdottir,E.K., Orlygsdottir,B., 2006. Health-related quality of life in Icelandic school children. *Scand J Caring Sci.* 20 (2), 209-215.

Tatarkiewich,W., 1976. *Analysis of happiness.* Polish scientific publishers, Warsawa.

- Thalheimer,W., Cook,S., 2002. How to calculate effect size from published research articles: a simplified methodology. In: (accessed December 10,2. (Ed.), [http://work-learning.com/effect\\_sices.htm](http://work-learning.com/effect_sices.htm).
- Thornberg,R., 2010. Schoolchildren's social representations on bullying causes. *Psychology in the Schools* 47 (4), 311-327.
- Tones,K., Green,J., 2004. *Health Promotion*. SAGE Publications, London.
- Trepper,T.S., Dolan,Y., McCollum,E.E., Nelson,T., 2006. Steve de Shazer and the future of solution-focused therapy. *Journal of Marital & Family Therapy* 32 (2), 133-139.
- Vatn,A.S., Bjertness,E., Lien,L., 2007. Bullying and health complaints in children and adolescents [Norwegian]. *Tidsskrift for Den Norske Laegeforening* 127 (15), 1941-1944.
- WHO, 1986. Ottawa charter, The first International Conference on Health Promotion. In: WHO Regional Office for Europe, Copenhagen.
- WHO, 1999. Highlights on Health in Norway. In: WHO Regional Office for Europe, Copenhagen.
- Wichmann,C., Coplan,R.J., Daniels,T., 2004. The Social Cognitions of Socially Withdrawn Children. *Social Development* 13 (3), 377-392.
- Wilson,I.B., Cleary,P.D., 1995. Linking clinical variables with health-related quality of life. A conceptual model of patient outcomes. *JAMA* 1 (4), 59-65.
- Wold,B., Samdal,O., 1999. *Health promotion among young people: the development of healthy school environments*. University of Bergen, Research center for health promotion, Bergen.
- Wolfe,L.C., 2006. Roles of the School Nurse. In: Selekman,J. (Ed.), *School Nursing: A Comprehensive Text*. F.A.Davis Company, Philadelphia, pp. 111-127.
- World Health Organisation, 2003. *Creating an Environment for Emotional and Social Well-Being An important responsibility of Health-Promoting and Child Friendly School*.
- Younger,A.J.G.c.B.K., 1993. Children`s perceptions of social withdrawal:Change across age. In: Rubin,K.H.A. (Ed.), *Social withdrawal, inhibition and shyness in childhood*. Lawrence Erlbaum Associates, Hillsade, pp. 215-235.
- Ystrom,E., Niegel,S., Klepp,K.I., Vollrath,M.E., 2008. The impact of maternal negative affectivity and general self-efficacy on breastfeeding: the Norwegian Mother and Child Cohort Study. *J Pediatr*. 152 (1), 68-72.

Zimbardo,P.G., 2001. The pathology of imprisonment. NY,US Free Press, New York.

Zimbardo, P & Radl,S.L 1999, The shy child. Cambridge, MA: Institute for the Study of Human Knowledge (ISHK)

