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Health and Economic Impact of Preventive Interventions for School Children Aimed to Improve Mental Health

Municipality perspective

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SAMMANFATTNING

Psykisk ohälsa bland barn och unga är ett växande problem i Sverige. Kommunen bär den största samhällskostnaden för ett barn under uppväxten och därför är det extra viktigt att ta reda på hur resurser kan omfördelas i samhället för att gynna barns hälsa. Syftet med studien var att visa hur en investering i preventiva insatser kan förbättra barns psykiska hälsa och samtidigt spara på samhällets resurser. Kommunal statistik visar att barn i skolan som är i behov av särskilt stöd på grund av depression/ångest, ADHD och psykosocial problematik får insatser så som stöd från elevassistent, lärare eller placerad i särskild undervisningsgrupp. Kostnader för dessa insatser varierar mellan 4424-26000 kronor per barn och månad. Dessa kostnader kan ställas i relation till kostnader för universella preventiva skolprogram som har en bevisad positiv effekt på barns psykiska hälsa, vars driftskostnader för en hel intervention som mest är 1097 kronor per barn. Analysen visar att en omfördelning av resurserna till preventiva interventioner, såsom skolprogram, kan vara en lyckosam satsning för kommunen, både ekonomiskt och hälsomässigt då det kan förbättra barns psykiska hälsa men också leda till samhällsbesparingar.

Nyckelord: Barn, Psykisk ohälsa, Kostnadskonsekvensanalys, Kommunala kostnader, Prevention, Skolintervention

ABSTRACT

Children's mental ill-health is a growing public health problem in Sweden and for the municipality, being an important financial actor during a child's upbringing, it is crucial to put resources where they give positive effect on the problem. The overall aim of the study is to describe how investing in prevention programs at children's schools can improve children's mental health and reduce the societal costs. Municipality statistics show that children in need of special support in school because of depression/anxiety, ADHD and psychosocial problems receive actions such as personal assistant, teacher or placed in a special education group. The cost of these actions varies between 4424-26000 Swedish krona [SEK] per child and month. These costs can be put in relation to preventive universal school interventions that have the highest cost of 1097 SEK per child and have a proven effect on child mental health. The analysis shows that preventing child mental ill-health can save societal costs and provide a healthier life for children compared to the current standard practice of targeting the children's problems only after they have occurred.

Key words: Child, Mental ill-health, Cost consequences analyses, Municipality cost, Prevention, School intervention

Table of Contents

SAMMANFATTNING	2
ABSTRACT	2
1. BACKGROUND	4
1.1 Definition of mental ill-health	4
1.2 Determinants of health	4
1.3 Risk and protective factors for child's mental ill-health	5
1.3.1 Externalizing behaviour problems	5
1.3.2 Internalizing behaviour problems	6
1.3.3 Socioeconomic status	6
1.3.4 School environment	7
1.3.5 The upbringing leaves marks in the future	7
1.4 A health economics approach	8
1.5 The role of the municipality in child health	8
1.5.1 What general actions for mental ill-health are offered in schools and what do they cost?	9
1.5.2 Preventive universal interventions in schools	10
2. Rationale for this study	10
3. Overall aim	10
Research questions	10
4. METHODS	11
4.1 Study design	11
4.2 Study population	11
4.3 Data collection procedure	11
4.3.1 Methods to find prevalence, actions and cost for school children with mental ill-health	12
4.3.2 Methods to find actions that can counteract the mental ill-health	12
4.4 Ethical considerations	13
4.5 Study frame	14
4.6.1 Identification, measurement, and valuation of costs of child mental ill-health	14
4.6.2 Cost of preventive interventions	15
4.7 Effects of preventive interventions	15
4.8 Cost-consequence analysis	16
5. Result	16
5.1 The mental health of school children	16
5.2 The actions of special support and its cost in school	20
5.3 Preventive Interventions: effects and costs	22
5.3.1 School programs	23
5.4 Cost consequence analysis	25
6. DISCUSSION	29
6.1 Result discussion	29
The main finding	29
6.2 Method Discussion	31
7. Conclusion	33
REFERENCES	34

1. BACKGROUND

Children's mental ill-health is a wide known growing problem, and it is estimated that 15-25% of children suffer from mental ill-health, both in Sweden and internationally (Pellmer & Wrammer, 2009; World Health Organization [WHO], 2001). In order to reduce the rates of mental ill-health, early prevention in childhood, especially before the adolescent years, is important (Adrian, Charlesworth-Attie, Vander Stoep, McCauley & Becker, 2013; FHI, 2013a). If mental ill-health is not prevented or treated during childhood, then children are more likely to use drugs, as well as not graduate from high school, and be unemployed (Scott, Knapp, Henderson & Maughan 2001; Fergusson, Horwood & Ridder, 2004). Additionally, externalizing behaviour problems and emotional problems predict future problems such as crime, school failure, and unwanted pregnancy (O'Connell, Boat & Warner, 2009). For these reasons, the Swedish government has stated that actions to improve children's mental health should be prioritized (Public Health Agency of Sweden [PHAS], 2013a). Specifically, Sweden's public health goal is to "create the social conditions for good health on equal terms for the entire population." (Prop. 2007/08:110). In order to reach this goal, public health actions should provide the population with good mental health services.

1.1 Definition of mental ill-health

Symptoms of child mental ill-health leads to less emotional well-being and has negative effects on everyday life. These symptoms can be classified as both internalizing and externalizing problems (Satens Offentliga Utredningar [SOU], 1998:31). Internalizing problems, such as anxiety and depression, affect the child, but it is not always visible for the surrounding people, while externalizing problems do affect other people, showing signs of hyperactivity, displaying conduct problems, and showing aggressive behavior (Swedish Council on Health Technology Assessment [SBU], 2010; Bremberg, 2007). These problems affect the child negatively and create barriers for optimal development in childhood (SBU, 2010).

1.2 Determinants of health

Combinations of individual and structural factors create different options for the development of an individual's lifestyle and health. To understand how health is affected by these different factors, it is necessary to demonstrate using the public health model "Determinants of Health" (Pellmer & Wrammer, 2009). The model describes how different layers in the society impacts a person's life,

while acknowledging that each person has certain unchangeable properties, such as sex and genetics, that cannot be affected by the society. Working from the a macro to a micro level, the model includes four different levels: the first level consists of general socioeconomic, cultural and environment factors such as gender differences, as well as how equal and socially stable the society is as a whole; 2) the next level considers a person's education, working environment and health care; 3) this level consists of the societal and local network where relations between people and social support are included; and 4) focuses on the individual's lifestyle, such as smoking, exercise, and alcohol use. It is important to understand the complexity of the model and how the society and actor are interacting in creating the circumstances for health; therefore the following section will discuss both structural and individual risk- and protection factors that affect a child's mental health.

1.3 Risk and protective factors for child's mental ill-health

This section describes the risk and protective factors for child mental ill-health, with an emphasis on externalizing and internalizing problems. It will also highlight the importance of socioeconomics, school environment, and the impact of the upbringing.

1.3.1 Externalizing behaviour problems

Externalizing behaviour problems are caused by both child related problems and problems in the child's environment. Risk factors for externalizing problems are lack of social skills, which often leads to fights with classmates and family members, being very impulsive and having learning difficulties. Learning difficulties could lead to externalizing problems because a child who cannot follow what happens in the classroom can get frustrated and restless, leading them to disturb their classmates (National Board of Welfare, 2010a). Lack of cognitive skills, such as planning and organizing according to a certain task or to improvise if something unplanned happens, is a risk factor for externalizing problems (The National Board of Health and Welfare, 2010a; Olsson & Olsson, 2007). When a child has these risk factors it could also be a sign Attention-Deficit/Hyperactivity Disorder (ADHD), which could lead to needing special support from another person, such as a personal assistant or special education group (The National Board of Health and Welfare, 2002; Personal communication with municipality official). If a child shows signs of externalizing and conduct problems at a young age, it could lead them to developing antisocial behaviour that follows the child through to adult life and may also develop to anxiety and/or depression. Therefore it is important to decrease the risk behaviour at an early stage, so it will not lead to a major problem for

both the individual and society (The National Board of Health and Welfare, 2010a). A child's family life is also important, especially if there are problems within the household, creating a higher risk for children to develop externalizing problems. These problems are further exacerbated when parents do not know how to manage their child's negative externalizing behavior (The National Board of Health and Welfare, 2010a).

In order to minimize these outcomes, protective factors need to be employed both at home and at school. Although it is impossible to fully protect a child from all situations, providing children with a stable surrounding, as well as teaching them social and cognitive skills will provide them with needed protective factors so that they are less likely to develop externalizing behavior and conduct problems (The National Board of Health and Welfare, 2010a).

1.3.2 Internalizing behaviour problems

Internalizing problems are also dependent on both the child and their environment. If a child is biologically vulnerable, then their risk is higher for depression, lack of well-being and anxiety. When a child is bullied, feels excluded or feels there are too high of expectations, they are more likely to succumb to internal problems, which may also lead to truancy and school failure. Similar to externalizing problems, parents are also influential in helping or discouraging the child from developing internalizing problems. For example, children are at a higher risk of developing internalizing problems if they are around parental fighting if the parents mistreat the child, or if the child comes from a family living below the poverty line (The National Board of Health and Welfare, 2010b). Protective factors for internalizing problems include having a stable upbringing with a loving and supportive family, having a stable and supportive school, to receive good grades, have good school attendance, and having friends (The National Board of Health and Welfare, 2010b).

1.3.3 Socioeconomic status

Children and adolescents with low socioeconomic status are 2 to 3 times more likely to develop mental health problems (Reiss, 2013). They are dependent on their parents' socio-economic status and social stability, as well as on their school environment and friends; these dependencies make children very vulnerable to developing mental health problems (The National Board of Welfare, 2010a). In fact, children's risk of developing a mental health problem dramatic goes up if they come from a low-income household and if their parents have low educations. This in turn affects the child's social development and how they perform in school (Marmot and WHO, 2008; Reiss, 2013).

Children who have risk factors are more likely to develop mental ill-health problems than children with more protective factors (Koupil, 2012; Ahrén & Lager, 2012; Wilkinson & Pickett, 2009); therefore helping parents and schools to provide children with needed protective factors is paramount. If children are born in a low socioeconomic household, then it is important for society to provide protective factors, such as emotional and social tools, to limit the possibilities for that child to develop mental health problems. The WHO, led by Sir Michael Marmot, is currently arguing for reform so that socio-economic factors no longer influence a child's mental health status (WHO, 2008).

1.3.4 School environment

To prevent mental ill-health, one important protective factor, as mentioned earlier, is that a child should have a stable social environment in school (Olsson & Olsson, 2007). Mental illness can be prevented in schools and preschools where children can practice and develop different skills such as emotional and social skills that serve as protective factors (PHAS, 2013b). Schools have during the last year been opening their aim and working with methods to not only focus on children's learning, but also on improving their health. Therefore schools are recognized as an important arena for public health interventions. They provide opportunities to detect children with special needs due to mental ill-health, and also a chance to prevent these issues from occurring (The National Board of Health and Welfare, 2010a).

1.3.5 The upbringing leaves marks in the future

A child's first years are an important developmental period for developing social, emotional, and cognitive sides that affect the child's learning possibilities and success in school, social skills, and health. In fact, several studies have stated that what happens in a child's upbringing affects them their entire life (Koupil, 2012). What a person earns as an adult, what education they had, and their adult mental health status is all connected to patterns found in their early youth (Koupil, 2012). Both biological factors and social factors impact the child's upbringing. (Koupil, 2012; Ahrén & Lager, 2012). Risk and protective factors have different impacts on children depending on the intensity, how many factors they are exposed to and for how long they are exposed to them. However, the child's vulnerability levels to the risk factors may make them more or less susceptible to be affected by the world that is around them (The National Board of Health and Welfare, 2010a).

1.4 A health economics approach

When conducting a health economic evaluation on societal costs for children's mental ill-health, extra-welfarism (Coast, 2004) and willingness to pay (Drummond, et. al., 2005) theories are beneficial lenses to utilize. Both of these theories focus on what society is ready to pay for improved health. In this case, the municipality is the payer seeking to diminish the burden of child mental-ill health. The focus of these theories is to have the greatest health outcomes using the available resources (Coast, 2004; Benfort. 2009; Drummond, et. al., 2005). This approach makes it possible to compare the cost of burden of child mental ill-health with the costs of different interventions. This approach may also be easier for a decision maker to comprehend. In the case of the current study, the interventions will be based on universally-offered school interventions.

These theories focus on what a target group or society could gain from a public health intervention and by making decisions via using monetary standards and through showing the actual costs of illnesses compared to prevention costs, decision makers could more easily justify their public health approach (Coast, 2004). The society's higher goals for public health might give a more accurate picture on societal cost and burden of an illness than basing costs from individual's perspective. This is not surprising, that society has to prioritize their public health promotion plans. For example, children with mental ill-health problems, elderly people who have the right to receive a high quality of life, and improved care for people with handicaps. Society has a responsibility to consider that their decisions today affect the future (Brouwer, Koopmanschap, 2000), which makes the theoretical view of extra-welfarism and willingness to pay suitable for this study because they focus on what society could gain on peoples' public health, which is what Sweden's public health politics are striving for (Coast, 2004; Drummond, et. al., 2005).

1.5 The role of the municipality in child health

A Swedish municipality public activities for one child between 0-18 years old cost around 1.2 millions Swedish krona [SEK]. This makes the municipalities one of the most important financial actors for Swedish children. It is necessary to know if the actions during a child's life are effective and gives the most health for the money (Bremberg, 2007). The research field of preventing mental ill-health at an early age has been including health economic evaluations more commonly to find out if the interventions can decrease the level of mental ill-health at the same time as they decrease the economic burden (Jané-Llopis et. al., 2011). Health economic evaluations provides researchers, politicians and practitioners with knowledge on how to use the limited resources available for public health actions (FHI, 2003; Brouwer & Koopmanschap, 2000). In Sweden, the municipalities have a

big responsibility for the children and youth, and as stated above, they bear the bigger part of the societal cost (Bremberg, 2007).

1.5.1 What general actions for mental ill-health are offered in schools and what do they cost?

Municipalities have limited resources and in health economic evaluations it is important to know what are the costs of general actions to support children with mental health problem. Table 1 presents an estimation of what a municipality pays for general actions in school per child and year (The National Board of Health and Welfare, The Swedish National Agency for Education & Public Health Agency of Sweden, 2004; Bremberg, 2007). It shows the different costs for the actions and how resources are allocated between the different actions. For example, more teachers in preschool, fewer students in each class, and open daycare after school cost more than a counselor. It could benefit the public to use relatively expensive actions and gain more health to the population, than cheaper alternatives. But it could also generate better health to use actions with lower costs and still get the same gain in health. To know what effects the money gives, a cost effectiveness study was conducted (Bremberg, 2007). It has been shown that more staff in preschools and reduced classroom size is not cost effective, which provokes thought on how resources could be reallocated to more effective actions that could decrease the public health problem of child mental ill-health. It is important to prioritize how to use the available resources at an early stage, and it is possible that to implement actions with a lower cost could have a bigger chance to stay in school environments and be used by municipalities in Sweden.

Table 1: Estimation of costs for general actions in school, SEK 2012. (The National Board of Health and Welfare, The Swedish National Agency for Education & Public Health Agency of Sweden, 2004; Bremberg, 2007)

General actions	Cost per child and year
Open preschool	17 735
Increased staff in preschools	35 108
Reduced classroom size	15 201
Counselor in school	603
Special educator in Sweden	44 397
Open leisure activity center	23 164

1.5.2 Preventive universal interventions in schools

As stated above, there are different actions that a school provides for children that could help decrease the level of mental ill-health. It is important to focus on universal interventions in schools, because it is a place where you can target all children and also a perfect environment to develop social and emotional skills (PHAS, 2013b). There are different evidence-based interventions that are shown to affect a child's mental ill-health (O'Connell, Boat & Warner, 2009), and they will be discussed further in the results section.

2. Rationale for this study

Municipalities have a responsibility and an opportunity to create a positive public health environment for children during their formative years. These opportunities could lead to less mental ill-health problems later on in life and therefore less societal costs. The municipality has the responsibility over schools and therefore also the duty to take care of problems, that occur and affect the school environment. For example, mental ill-health problems can affect the child's school attendance (The Swedish National Agency for Education, 2011). Therefore it is important to discover the economic burden of a municipality caused by child mental ill-health in school and what possible preventive school interventions available can improve the children's mental health and decrease the overall cost

3. Overall aim

The overall aim of the study is to describe how investing in prevention programs at children's schools can improve children's mental health and reduce the societal costs.

Research questions

1. What are the school children's mental ill-health problems?
2. What actions does a Swedish municipality offer for children in school who have mental ill-health problems?
3. What are the municipalities costs for a school children's mental ill-health?
4. What actions can counteract the mental ill-health; effects and cost?

4. METHODS

4.1 Study design

The study has a descriptive design using mixed methods including both qualitative and quantitative methods (Polit & Beck, 2011).

4.2 Study population

The study population consists of school children and youth between 6-16 years old with mental ill-health problems in a medium sized municipality from the middle part of Sweden. Inclusion criteria include internalizing problems such as anxiety, depression, and lack of well-being and externalizing problems, such as conduct problems, hyperactivity, and ADHD. Exclusion criteria are children with severe mental ill-health and diagnoses that need to go to special schools. Data was collected from one of the three school districts in the municipality. School children (N = 310) were receiving special support from the municipalities. School children also received support for ADHD, psychosocial and depression or anxiety (N = 155). However, 12 of these students were excluded because they were transferred to a special needs school due to their severe mental ill-health problems, leaving 143 school children who received additional special support.

4.3 Data collection procedure

Using the snowball method, officials at the municipality working with social services and schools were contacted through email and phone calls and asked for data on how many children had mental ill-health problems and what they cost. For this study, social services did not have any collectable data. Using the snowball method, one official working with special support in schools had data on school children with special support due to their mental ill-health problems. This data showed what kind of support the school children with psychosocial, ADHD and anxiety or depression received and what they cost. All information was anonymous, so the confidentiality of the child is secured. When the questions were asked, actions for depression and anxiety were not included. Therefore follow-up questions were asked on what actions the children generally would receive in school.

The preventive interventions and school programs were found through a literature review using different search engines and reports. To be able to calculate the cost, information on how the school programs were conducted were collected. The effects of the programs were then estimated using examples from previous studies and changes into percent improvement in health variables, to provide

an overview.

The cost of mental ill-health and cost of preventive interventions was then compared using a cost consequence analysis.

4.3.1 Methods to find prevalence, actions and cost for school children with mental ill-health

To learn which child mental-ill health problems school children have from a public health perspective, chosen data were used from national and regional databases provided by the Public Health Agency of Sweden's study on child mental ill-health and regional data from the county (PHAS, 2009; Liv & Hälsa Ung, 2013). To explain which actions a municipality offers to children in school with mental ill-health problems and their costs, data from a school district in the municipality have been analyzed. Children with special support caused by mental ill-health represent the cost and the actions the children are given. The data was collected on group level and put together by an official at the municipality. The official was found through the snowball method (Bryman, 2007; Polit & Beck, 2011) and when found, the person was asked what actions children with mental ill-health received in the school district, what they cost and what the reasons were behind the actions they chose. When asked, the focus was mainly on externalizing behaviour, but other mental ill-health problems, like anxiety and depression, were also included later in the study when the data was provided and when analyzing the data.

4.3.2 Methods to find actions that can counteract the mental ill-health

Different search engines such as Google and Pub Med and existing literature reviews such as SBU (2010) and O'Connell, Boat & Warner (2009) were used to find evidence-based interventions. Personal contacts with Swedish researchers of the Swedish interventions were also used in the results in order to receive more detailed information about the programs structure. The international interventions was found through literature reviews and reports (SBU, 2010; O'Connell, Boat & Warner, 2009) and scientific articles were found through different search engines using search words such as "school intervention", "mental health disorder", "child behaviour disorder", "child behaviour problem", "conduct problem" and "conduct disorder" in combination with "prevention and control", "school children", "randomized control trial", "school intervention", "Good Behaviour Game", "PATHS", "Providing Alternative Thinking Strategies", "Comet", "FRIENDS" or the author's name of the articles about the interventions found in literature reviews.

Inclusion criteria included that the intervention should have an effect on child mental ill-health, be

situated in a school environment and led by a teacher. It was also important that there were general interventions, with focus on the whole class. Exclusion criteria included interventions for children younger than 6 years old or older than 16 years old, selective interventions that only focus on one gender and interventions for children with severe mental ill-health problems. It should be mentioned that Comet For Teachers (Forster, 2011) was partly a selective intervention, because one student per class was, according to the program, chosen as having more problems than others. The intervention, however, has methods for the whole class. Providing Alternative Thinking Strategies [PATHS] (Curtis & Norgate, 2007) also included children who were 5 years old. But it was included because it was highly recommended in literature reviews (O'Connell, Boat & Warner, 2009) and the study that stands as an example did not include children of that age (Curtis & Norgate, 2007). The intervention FRIENDS (Lowry-Webster, Barrett & Dadds, 2001) also includes two parenting meetings, but they are conducted by the teacher. It was also included to show an example of an intervention that prevents internalizing problems, such as anxiety.

Table 2: Results from the literature review.

School program	Reference
Good Behaviour Game	van Lier, Viujk & Crijen, 2005; Dolan et. al., 1993
FRIENDS	Lowry-Webster, Barrett & Dadds, 2001
Comet For Teachers Short	Forster, 2011
Comet For Teachers Long	Forster, 2010
SET grade 4-9	Kimber, 2008
PATHS	Curtis & Norgate, 2007

4.4 Ethical considerations

The study involves children between 6-16 years old living in a Swedish municipality and no private information, including personal numbers, was collected. Data collection on cost of illness was handed out without personal information. Public schools are, according to Codex (2013a), under the “official and secretes act” were some data that does not harm the child in particular can be collected for research. An example of that data can be student matters. Other data that was used were collected from national

databases on population level, which limits the risk of revealing personal information, because all the participants are unidentifiable. Studies made on university level are not under the ethic approval law, but of course, if an intervention would be implemented and it would be of any risk for the participants, it would be different (Codes, 2013b). In this case no intervention was applied and the participants in the study were analyzed at population level and no personal information was collected.

4.5 Study frame

The results are presented as a cost consequence analysis, where costs of illness and costs and effects of preventive interventions were compared (Coast, 2004). Data for actual resources needed for a child with mental ill-health in school were compared with costs of running effective preventive interventions. An example of running costs is what it costs to run the program, for instance how much it costs to have the teacher implementing the program in her regular work. This cost consequence analysis will provide a picture of how the illness, and therefore also the economic burden, could be reduced if resources are prioritized towards preventive interventions for mental ill-health.

4.6 Costs

4.6.1 Identification, measurement, and valuation of costs of child mental ill-health

Data was provided from an official at the municipality on the number of children that had ADHD, psychosocial problems and depression/anxiety, what actions they received, and what the actions costs of using the teachers' and personal assistants' salary was. The groups either had a teacher full time, personal assistant part or full time, or were put into a special education group held by one full time teacher and a half time personal assistant. The cost of having a personal assistants was calculated by multiplying the number of children with a personal assistant and adding in the personal assistants' salary. The costs were then divided into school costs and municipality costs, because every school paid 65 % of the personal assistants' salary and the municipality provided the rest of their salary. Cost per child was calculated by taking one personal assistants' salary full time. The cost of having a child in a special education group was calculated by dividing the total cost of running a special education group by eight, because that was the estimated number of students in a the class, which gave cost for one child. By multiplying the number of students and the cost for one student, the total number was received. It was then divided into school and municipality cost. Finally, the cost per child was also presented.

4.6.2 Cost of preventive interventions

The cost of preventive interventions was estimated based on collecting data about each program. The number of meetings, time per meeting, number of participants per meeting, numbers of preparation meetings needed between the meetings, time in between the meeting, number of leaders was collected through scientific articles, while websites of the school interventions and personal contact with the responsible researchers was also collected (Feldman, 2013). Because the teacher is the leader, a cost per hour for the leader was estimated through the official salary data from Statistics Sweden (2013).

Table 3: Calculations of running costs for preventive interventions.

Cost	Equation
Total cost – salary	$(\text{Numbers of meetings} * \text{Time per meeting}) + (\text{Numbers of preparation meetings between the meetings} * \text{Preparation time}) * \text{Numbers of leaders}$
Cost for classroom	$(\text{Numbers of meetings} * \text{Time per meeting}) + (\text{Numbers of preparation meetings between the meetings} * \text{Preparation time}) * \text{Cost of classroom}$
Total costs	$\text{Total cost – salary} + \text{Cost for classroom per hour}$
Cost per child	$\text{Total costs divided per child}$

4.7 Effects of preventive interventions

Examples of effects from every intervention are shown to give an impression on what outcome effects can be expected for the operation costs. It is important to state that the chosen method is cost consequence analysis, so it will not lead to conclusions on what interventions are the most cost effective. The current analysis will only give a general overview on possible effects of every intervention. To find the outcome, the incremental health effect (Drummond, et. a., 2005) was calculated and expressed as an improvement in percentage. This was done by subtracting the intervention group pre-test result with the post-test result and subtracting that with the control group pre-test subtracted with post-test result. Dividing the incremental effect with the interventions group pre-test gave a change in effect in percentage, which is easier to overview and compare than the incremental effect. Because the data used was not intended for health economic evaluations, some interventions data needed to be calculated differently. Comet For Teachers Short's (Forster, 2011) numbers come from a comparison study between the two versions, so the effects shown are in relation

to the other version. Comet For Teachers Long (Forster, 2011) did not have a control group without any intervention, because the study was conducted by comparing Comet For Teachers Long with another intervention called CHARLIE. One of the studies from Good Behaviour Game (Dolan et. al., 1993) show results in terms of gender, because that was how the data was displayed. PATHS (Curtis & Norgate, 2007) are displayed as three different programs, but the effect is only shown by one program. SET (Kimber, 2008) has two different programs with one aiming to influence children between 6-11 years and one that is aimed at children 12-16 years old, but the effects of the program are only displayed in a program targeting children between 11-16 years old.

4.8 Cost-consequence analysis

The analysis have two parts; the first is made by dividing the municipality cost of child mental ill-health with the school interventions, to put the costs in relation to each other. The second part is to show what the school interventions potentially could save the municipality cost. The improvement in percentage are multiplied with the municipality cost.

5. Result

5.1 The mental health of school children

Data on municipality level (Figure 1, Figure 2 and Table 4) shows that the risk factors for mental ill-health occur among children in grade 6 and 9 in the municipality, increasing children's chances to developing mental ill-health problems such as ADHD, psychosocial problems and major depression (The National Board of Health and Welfare, 2010a; The National Board of Health and Welfare, 2010b).

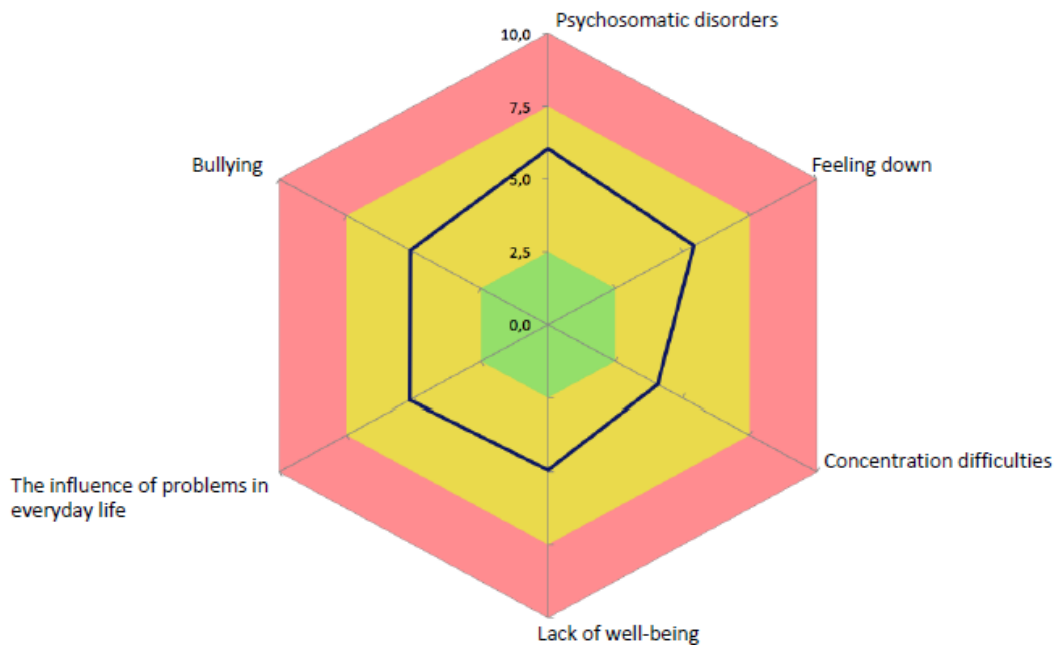


Figure 1: Data on school child mental ill-health at the municipality level, grade 6. Green indicates low prevalence level compared to other municipalities in Sweden. Yellow area indicated the 50 % with medium prevalence level. Red area indicates 25 % of Sweden's municipalities with the highest prevalence level (PHAS, 2009).

A comparison between school children's mental ill-health at municipality level (PHAS, 2009) show how this municipality stands compared to all other municipalities in Sweden. According to Figure 1, children in grade 6 in the chosen municipality, had mental ill-health problems at a level that place them in the middle category in Sweden, which show that risk factors and actual mental ill-health problems are occurring, which could lead to more severe mental ill-health problems. The frequency of bullying show the actual number of children in the class that are bullied or know someone who's bullied, which in this case are five people in the class. Figure 2 shows the result from the same study, but of children in grade 9 from the same municipality. Eight variables are displayed, with the variables "feeling down" and "the influence of problems in everyday life" standing out as bigger problems in this municipality, followed by "concentration difficulties" and "lack of well-being".

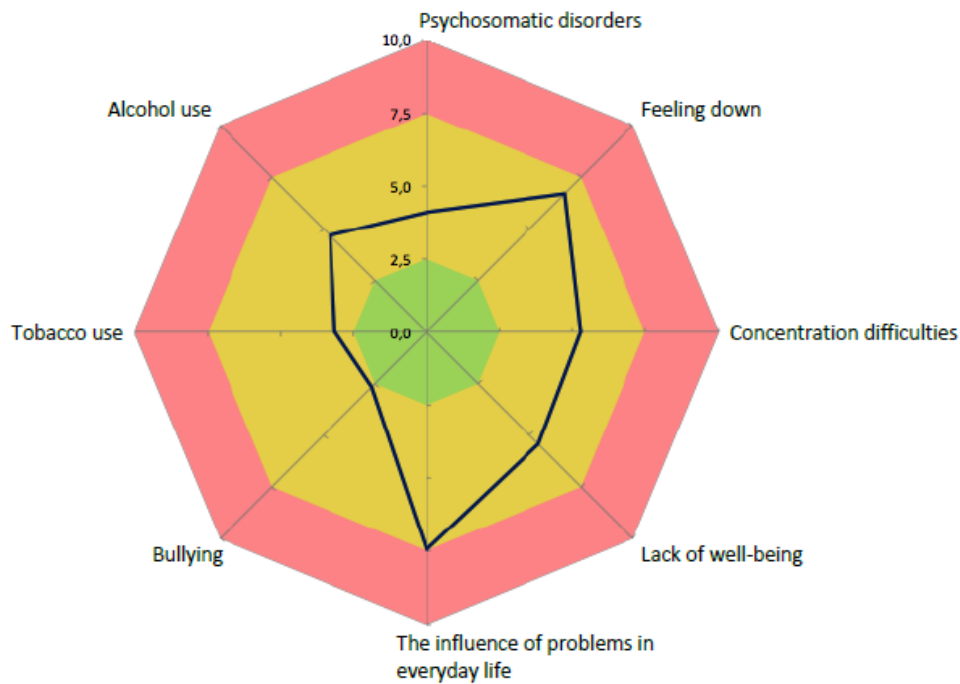


Figure 2: Data on school child mental ill-health at the municipality level, grade 9. Green indicates low prevalence level compared to other municipalities in Sweden. Yellow area indicated the 50 % with medium prevalence level. Red area indicates 25 % of Sweden's municipalities with the highest prevalence level (PHAS, 2009).

Data on school children in grade 7 and grade 9 for the same municipality (Liv och Hälsa Ung, 2013, Table 4) show that school children in grade 7 are happier and more relaxed and calm than school children in grade 9. It is also evident that children in grade 9 are having more problems with feeling down, being angry or irritated, anxious or worried and stressed. Bullying is not depended on grade or gender when assessing the prevalence of the problem. Boys are happier and more relaxed and calm compared to the girls. It is therefore not surprising that the girls also have a higher prevalence in the variables that are risk factors for mental ill-health. Bullying is a bigger problem among boys than the girls, but there is not a big difference between the groups

Table 4: Regional data in school children's mental health (Liv och Hälsa Ung, 2013)

Emotion variable	Grade	Percentage of the girls (%)	Percentage of the boys (%)
Happy	7	67.9	74.1
Happy	9	56.0	66.4
Relaxed or calm	7	40,9	55,8
Relaxed or calm	9	27,5	55,4
Feeling down	7	13,3	3,9
Feeling down	9	23,3	8,6
Angry or irritated	7	22,8	10,8
Angry or irritated	9	29,9	15,4
Anxious or worried	7	10,0	3,5
Anxious or worried	9	23,3	7,5
Stress	7	31.8	12.2
Stress	9	44.0	18.1
Bullying is a problem in school	7	12,6	14,6
Bullying is a problem in school	9	13,0	16,1

The prevalence of risk factors and actual status of mental ill-health show that the study population has a risk of developing more severe mental ill-health problems, such as major anxiety or depression, ADHD and psychosocial problems (The National Board of Health and Welfare, 2010b; Bohman, 2012). Preventing mental ill-health is important since around 10 percent of all children and youth in Sweden have either ADHD or psychosocial problems (The National Board of Health and Welfare, 2010b), and 1 to 2 percent of young children have depression, which then at least triples in size to 5 to 6 percent in adolescence (The National Board of Health and Welfare, 2010a), although major depression can be as prevalent as 11 percent in adolescents (Bohman, 2012).

5.2 The actions of special support and its cost in school

If the principle of a school thinks that a child might need special support, an investigation is then made and, depending on the outcome, they can provide that child with needed special support (The Swedish National Agency for Education, 2013). In order to financially pay for this special support, the principle asks the resource unit at the municipality for monetary support. Every school district has one resource unit, that after an investigation, decides if a school can receive monetary support for a child with special needs, such as mental ill-health. In one of the school districts, 310 children were at the time data was collected supported financially by the municipality. Of these, 143 received support in their original school due to ADHD, psychosocial problems, anxiety or depression.

Children in school with mental ill-health problems can either receive special support in the classroom with either a personal assistant or a teacher helping the person, or be placed in a smaller class of eight students, called a special education group. That support includes one teacher and a personal assistant who works part-time. Sometimes, they need both a personal assistant and go to a special education group to be able to go in school. Children with severe problems can also be placed into special schools. Those children will not be included as an example of cost however, since the focus of this data is on mental ill-health in the original school. As an example of the illness, the cost of children with personal assistants, teachers and children in special education groups are described (Table 5, 6 & 7). It should be noted that some of these children could have several actions and therefore a child with severe problems could have been included. It is common that a child with anxiety or depression needs to redo their course plan in order to focus on a few of the courses to be able to stay in school. If this happened, it could lead to additional costs that were not calculated in this study.

It is important to state that this study provides an example of cost of child mental ill-health and does not attend to provide a full display of the municipality cost for the health problem. Of 143 students that receive special support in school, 33 students receive it due to psychosocial problems and 12 of these have a personal assistant either part- or full-time; 116 students receive support due to ADHD or similar problems, and 52 of these have a personal assistant either part- or full-time, 6 students have special support because of depression or anxiety. When the data was collected, it focused on externalizing behaviour, and therefore the different kinds of actions the school children with anxiety and depression received were not described. But after contact with the school official, more information about this group was added and with an assumption that the school children with anxiety or depression at least have one teacher that supports the individual person. This could even be an underestimation, some school children could need more support, but this will give a picture on what the cost could be for this group.

The cost of school children with anxiety and depression are estimated from the assumption that each school child has one teacher on a full-time basis for personal education. One teacher's monthly salary is based on a flat rate cost of 26 000 SEK, so the total cost for one month is 156 000 SEK (Table 5). The school pays 65 % (101 400 SEK) of the teachers' salary, while the resource unit covers the rest (54 600 SEK).

Table 5: Cost of extra teachers in school for children with anxiety/depression per month.

Mental ill-health	Total municipality cost (SEK)	School cost (SEK)	Resource unit cost (SEK)	Cost per child (SEK)
Anxiety/Depression	156 000	101 400	54 600	26 000

The cost for personal assistants is based on a flat rate of 18 780 SEK, where the school pays 65 % of the salary and the resource unit 35 %. The total cost is 225 360 SEK for children with psychosocial problems and 976 560 SEK for children with ADHD (Table 6). The cost for schools are 146 484 SEK and 634 764 SEK, respectively, while the municipality contributes 78 876 SEK and 341 796 SEK, respectively (Table 6).

Table 6: Cost of personal assistants in school for children with psychosocial or ADHD problems per month.

Mental ill-health	Total municipality cost (SEK)	School cost (SEK)	Resource unit cost (SEK)	Cost per child (SEK)
Psychosocial problems	225 360	146 484	78 876	18 780
ADHD	976 560	634 764	341 796	18 780

The cost of a special education group is based on a flat rate of 35 390 SEK. That cost includes one teacher's full-time salary and one part-time personal assistant's salary. One special education group is estimated to contain 8 students and per student the cost is 4424 SEK (Table 7). Of the school children with psychosocial problems, 14 students go to a special education group and the total cost is

225 360 SEK. This is broken down by having the school pay 146 484 SEK of the cost, while the resource unit pays 78 876 SEK (Table 7). Fifty-nine school children with ADHD attend special education groups, which costs a total of 976 560 SEK. These costs are broken down by having the school pay 634 764 SEK of the cost, while the resource unit pay 341 796 SEK (Table 7).

Although the schools contributed to paying the largest part of the cost, it is important to note that the schools are municipality-run schools and therefore, indirectly, a part of the municipalities overall costs. With this in mind, the analyses will be conducted using the total municipality costs.

Table 7: Cost of special education groups in school for children with psychosocial or ADHD problems per month.

Mental ill-health	Total municipality cost (SEK)	School cost (SEK)	Resource unit cost (SEK)	Cost per child (SEK)
Psychosocial problems	61 933	40 256	21 676	4 424
ADHD	261 016	169 660	91 356	4 424

5.3 Preventive Interventions: effects and costs

To be able to understand the level of costs for special support for children in school, it is of interest to compare the cost with preventive interventions shown to have an effect on child mental ill-health. The school interventions are both international and national. Some interventions are based on the same theories, but have a slightly different set up due to the country it was implemented in. It is important to acknowledge that the results do not say which interventions are the most cost-effective (Drummond, et. al. 2005) and therefore there will not be any recommendations to which intervention could be better than another. Instead the studies provide a general view of what preventive interventions in a school setting could cost. A short description of the interventions are provided, and after that a table showing the effect outcomes, total cost and cost per child.

5.3.1 School programs

Good Behaviour Game

Good Behaviour Game is a program based on behaviour theory for children between 7-12 years old (Tingstrom, Stearling-Turner & Wilczynski, 2006; Interventin Central, n.d.). The aim is to decrease early signs of externalizing behaviour among the students by letting the children compete in teams against each other in good behaviour. The program continues during the whole school year and starts with 15 minutes sessions that increase stepwise up to 1 hour by the end of the school year.

FRIENDS

FRIENDS [which stands for: Feeling worried; Relax and feel good; Inner helpful thoughts; Explore plans; Nice work, reward yourself; Don't forget to practice; and Stay calm for life] is a school program based on cognitive behaviour theory that aims to help children and teenagers (10-13 years) to cope with stress, anxiety and depression by practicing cognitive and emotional skills that help build the self confidence and counteract mental ill-health (Lowry-Webster, Barrett & Dadds, 2001). The program contains 10 meetings that are approximately 50 minutes long once a week. It also contains 2 booster meetings (one and three months later) and 2 parents meetings.

SET

SET [Social Emotional Training] is a Swedish program that aims to promote young children (6-11 years) and teenagers (12-16 years) mental ill-health and positive development and is theoretically based on the Affective-Behavioural-Cognitive-Dynamic model (ABCD model) (Kimber, 2008; Kimber, 2010). It wants to strengthen protective factors at individual; group and school level with focus on for example problem solving and interaction ability. The program happens 2 times per week and continue during one school year.

Comet For Teachers

Comet For Teachers is a Swedish program and aims to give teachers a tool to be able to cope with children with externalizing behaviour, concentration problems and endurance. Comet For Teachers is built on social learning theory and has some components that are similar to Good Behaviour Game (Forster, 2011). The intervention is both on general and selective preventive levels. The program is in two versions; one shorter that involves 5 meetings over a half semester and one longer, with 9 meetings during a whole semester.

PATHS

PATHS [Promoting Alternative Thinking Strategies] aims to develop social and emotional competence in children between 5-12 years old. The theoretical framework for PATHS also uses the Affective-Behavioural-Cognitive-Dynamic model (ABCD model) (Curtis & Norgate, 2007; Australian Government & beyond blue, n.d.). PATHS aims to prevent aggressive and other behaviour problems while improving critical thinking skills. It contains three units; PATHS 1: Readiness and Self-Control Unit with 12 lessons; PATHS 2: Feelings and Relationships Unit with 56 lessons and PATH 3: Interpersonal Cognitive Problem Solving Unit with 33 lessons.

Table 8 show examples from previous studies on the school programs and their improvement in percentage, which gives a picture on what effect they could have. The outcome varies from 6 % to 60 % improvement on different mental ill-health problems (Table 8). All programs except FRIENDS have outcomes targeting externalizing behaviour in different ways. The studies from PATHS and SET have the highest effect. FRIENDS shows an effect for both those who have and do not have a risk for anxiety, with a slightly better effect in the risk group. SET targets internalizing problems and the study shows an improvement of 60 %. Table 9 describes the total cost and cost per child in every school intervention. Good Behaviour Game has the cheapest running costs per child, while SET (for children between 6-11 years old) is nearly ten times more expensive, but is still much less per child than the cost of a personal assistant or special education group (Table 5, 6 & 7). In fact, the most expensive school intervention, SET, costs a fourth of what a student in a special education group costs in a month. SET also has the highest effect, but since the cost was applied after the study, it is impossible to know the true cost-effectiveness of this study and therefore may not have the highest overall cost-effectiveness

Table 8: Example of effects in school interventions.

School intervention	Mental health indicator	Improvement (%)	Reference
Good Behaviour Game	Anti Social Behaviour	22 %	van Lier, Viujk & Crijen, 2005; Dolan et. al., 1993
	Aggressive Behaviour Boys	6 %	
	Aggressive Behaviour Girls	14 %	
FRIENDS	Anxiety – Universal	23 %	Lowry-Webster, Barrett & Dadds, 2001
	Anxiety - High Risk Group	31 %	
Comet For Teachers Short	Conduct Problems	26 %	Forster, 2011
	Hyperactivity	13 %	
Comet For Teachers Long	Teacher Rating External Behaviour	5 %	Forster, 2010
	Observed External Behaviour (no/day)	29 %	
SET grade 4-9	Internalizing Problems	60 %	Kimber, 2008
	Externalizing Problems	48 %	
PATHS	Emotional symptoms	59 %	Curtis & Norgate, 2007
	Peer Problems	46 %	

Table 9: Cost of preventive school interventions.

School intervention	Total cost SEK	Cost per child SEK
Good Behaviour Game	1 656 kr	128 kr
FRIENDS	1 833 kr	141 kr
Comet For Teachers Short	2 760 kr	213 kr
Comet For Teachers Long	4 968 kr	383 kr
SET 6-11 years	14 214 kr	1 097 kr
SET 12-16 years	7 038 kr	543 kr
PATHS 1	1 656 kr	128 kr
PATHS 2	7 728 kr	596 kr
PATHS 3	4 554 kr	351 kr

5.4 Cost consequence analysis

When looking at the municipality costs of providing school interventions, it is predicted that the municipality could potentially save financial resources if those same resources were reallocated to preventive interventions (Table 10, Table 11). The total municipality cost of child mental ill-health

per month is between 2 to 123 times higher as the total cost of school interventions (Table 10). The improvements of the school intervention could thus be translated to potential cost savings, as preventive interventions could release future costs from mental ill-health. Comet For Teachers has shown to reduce externalizing behaviour problems by 26 %. This would translate into a saving of 88 867 SEK in municipality costs. This describes what possible health and economic impacts the preventive intervention could have. Preventing anxiety through FRIENDS cost 1833 SEK in total and only 141 SEK per child (Table 9). For the same cost as one child with a teacher as special support, the FRIENDS intervention would include 184 children (Table 11). One month of municipality costs for all 6 children with special support are the same cost as 1106 children going to a full program of FRIENDS. A careful estimation is that FRIENDS could reduce municipality costs by 31 % (or in monetary terms, 48 360 SEK). This analysis shows how preventive interventions could have a positive health and economic impact for the municipality.

Table 10: Cost consequence analysis: number of school interventions for the total municipality cost of school children with mental ill-health.

Mental ill-health and action	Total municipality cost of mental ill-health per month (SEK)	School intervention	Cost of school intervention (SEK)	Improvement in mental health indicator (%)	Number of school interventions for the municipality cost of mental ill-health
ADHD – Personal assistant	976 560	Good Behaviour Game	1 656	Aggressive Behaviour Boys 6 % Aggressive Behaviour Girls 14 %	589
ADHD – Special education group	261 016	Comet For Teachers Long	4 968	Observed External Behaviour (no/day): 29 %	52
Psychosocial problems – Personal assistant	225 360	Comet for Teachers Short	2 760	Conduct Problems: 26 %	81
Psychosocial problems – Special education group	61 933	PATHS 2	7 728	Emotional symptoms: 59 %	8
Depression/ Anxiety – Teacher	156 000	SET 6-11 years	14 214	Internalizing Problems: 60 %	11
Depression/ Anxiety - Teacher	156 000	FRIENDS	1 833	Anxiety - High Risk Group: 31 %	85

Table 11: Cost consequence analysis: number of children participating in a school interventions for the municipality cost of one school child with mental ill-health.

Mental ill-health and action	Cost of mental ill-health per child and month (SEK)	School intervention	Cost of school intervention child (SEK)	Improvement in mental health indicator (%)	Number of school intervention children for the municipality cost of mental ill-health per child
ADHD – Personal assistant	18 780	Good Behaviour Game	128	Aggressive Behaviour Boys 6 % Aggressive Behaviour Girls 14 %	146
ADHD – Special education group	4 424	Comet For Teachers Long	383	Observed External Behaviour (no/day): 29 %	11
Psychosocial problems – Personal assistant	18 780	Comet For Teachers Short	213	Conduct Problems: 26 %	88
Psychosocial problems – Special education group	4 424	PATHS 2	596	Emotional symptoms: 59 %	7
Depression/Anxiety – Teacher	26 000	SET 6-11 years	1097	Internalizing Problems: 60 %	23
Depression/Anxiety - Teacher	26 000	FRIENDS	141	Anxiety – High Risk Group: 31 %	184

6. DISCUSSION

6.1 Result discussion

The main finding

The results show that between 7 and 184 children could receive preventive interventions that are shown to reduce risk factors for ADHD, psychosocial problems, and depression or anxiety for the same cost as one child receiving special support in schools for one month, such as needing to be placed in a special education group or to receive a personal assistant or full time teacher.

Mental ill-health is a growing public health problem among children in Sweden that needs to be given more attention. Regional data shows how children are less happy, feeling more down, and more stressed than a couple of years ago. Bullying occurs, and only around 50 % of the boys and girls state that they are often calm in school. National data shows how children in grade 9 had more problems than children in grade 6 with feeling down, which could indicate the importance of early preventions when there are fewer problems. The data show that the children are in need of more protective factors, such as a better social network at home and in school and also to be able to cope with their own stress and negative feelings. These protective factors could be given to children within the school environment by offering universal school interventions. These interventions could also affect bigger factors such as the child's future status. If a child has a stable upbringing and a successful time in school with good grades, it would provide the child opportunities to climb the ladder and reduce the socioeconomic gap between poor and wealthy families.

By acknowledging the risks and protective factors and how possible school interventions could decrease the risks and provide the children with tools in emotional, societal and cognitive knowledge, it could prevent the problem to grow bigger. Nearly every child in Sweden attends school and therefore interventions there could reach nearly every child. Health economic evaluations could help decisions makers to decide what possible interventions could be used and therefore how to reallocate their resources to more preventive interventions.

A child with a mental ill-health problem such as anxiety, depression, psychosocial problems could cost between 4 424-26 0000 SEK per month and that is just counting the extra help in school. It could be possible that the child receives more support outside of the school. According to personal contacts with officials at the municipality, it is common that children also receive support from other authorities, such as county council or the government. Having problems like this as a child could predict a life of more health problems and exclusion in the society, which could lead to even higher

societal costs and of course be devastating for the individual. The results show that interventions cost, although they only describe the running costs, are much cheaper than the alternative solution (i.e. hiring teachers and personal assistants). Additionally, the intervention programs all result in positive child outcomes, and thus a child can have a higher quality of life. The results show that the municipality put resources on child mental ill-health and do therefore also have possibilities to distribute and reallocate their funds from only targeting the problem in school to also trying to prevent them. If they would be reallocated to more universal school interventions, targeting the whole class, it could give possible future savings and less public health problems. School programs using universal preventive interventions have the possibility to be as or more cost effective as the general actions available in school today. They might also have a higher chance to be implemented successfully if they are cheaper than other alternatives, such as hiring a special education teacher that cannot help the whole class at once.

The interventions described above show different theoretical views on how to prevent mental ill-health that have shown effects in earlier studies. The aim is not to point out which programs are most cost-effective, but rather it shows different methods that teachers can use to prevent the public health problems of child mental ill-health. Even if the programs would not be implemented, it highlights different working methods that could be used in the school environment to give children more protective factors for their health.

The different school programs had different costs and different effects. The reason SET is almost ten times more expensive than Good Behaviour Game could be because SET has more meetings. However, SET also had a bigger effect. Note that this does not mean that SET is necessarily better than Good Behaviour Game, but it could give an hint that a more expensive intervention could also provide more positive health outcomes and according to the willingness to pay- and extra welfarism theory it is the decision makers who decide where the limit goes (i.e. how much to pay compare to how much effect). It is also essential to acknowledge the importance of a working implementation when public health interventions are planned. If the interventions are not well planned or acknowledged how the process should be, it can be difficult to achieve the effects that have previously been shown in clinical studies (Glasgow, Vogt & Boles, 1999; Butterfors, 2006).

The analysis provides an overview on how preventive intervention could potentially save municipality costs for child mental ill-health and at the same time improve the mental health for school children. School interventions have improved child mental health and the cost of using them is considerably less than the cost of the health problem. These examples show how the decision makers could reallocate the already existing resources to more preventive interventions. Of course

the children in need of special support in school should receive additional support as needed, but these results show that it is also important to invest in preventive interventions that could lead to better child public health in the future and that it, compared to the cost of the public health problem, has a much lower cost. It is also important to acknowledge the positive health impact the intervention could bring to the whole class, including the children without mental ill-health. By improving social, emotional and cognitive skills, all children improve their health status and possibilities for a future with good health. A public health intervention, such as school programs, could lead to less cost for child mental ill-health and a better public health in Sweden in the future.

6.2 Method Discussion

The study has a descriptive design. The advantage with this design is that it can provide an overview of a public health problem. It does also provides a framework for describing possible solutions to the problem, which helps understand what preventive interventions could do for child health and municipality costs. The disadvantage is that it cannot say how the solutions would work in the actual study population, which means that although earlier studies have shown improvement in child mental health, it is not clear that it would happen for the school children in this study. The strengths with the study was that it has both qualitative and quantitative methods, which brought an opportunity for deeper knowledge in municipality costs of school children with mental ill-health.

The descriptive design does not allow for conducting causal relations and therefore it is difficult to say that the internal validity is high. The study has some external validity, because the results showing that preventive interventions are useful to gain public health in the study population could be generalized to all school children in Sweden. The internal reliability of the study has been affected, because of how the data was collected from municipality on prevalence of child mental ill-health. Although the official received instructions, it was a subjective perspective that divided the children into different categories. The reason for that was because some of the children had multiple problems, and were then subjectively categorised depending on what the biggest problems was for each child.

Although studying children's mental ill-health comes with potential ethical dilemmas, such as privacy rights, those issues were not at stake in this examination, since all of the data collected was anonymous and analysed at the group level.

The literature review did not provide a full overview on available universal school interventions, which could be seen as a flaw with the study. Therefore it is possible that there are other school interventions that could be more effective or cost less, than described in this study. The aim was to find school interventions that could decrease the level of mental ill-health and when some were found,

there was no reason to look for more. It was difficult to find interventions in Swedish school settings, which led to having international interventions also included in the study. Extra caution needs therefore to be taken into consideration when analysing the effects of the school interventions, because they are not all tested within a Swedish context.

Although the municipality was very helpful in collecting data for health economic purposes, it should be mentioned that the way to finding the right person to talk to with the right opportunities and time to put together data was not easy. The process has shown a clash between the municipality's way of collecting and putting together data and the need for researchers to use available data, such as municipality costs. Of course this is not the municipality's problem, but it provides light into a possible hinder in public health promotion, where the university and municipality might need to collaborate in order to be able to find and implement the right interventions.

The cost consequence analysis provides an opportunity to apply willingness- to- pay theory and extra-welfarism theory. These perspectives provide an understandable comparison on cost of illness and cost of possible preventions for the illness, which is easy from a societal and decision maker's point of view. The analysis however cannot say that one certain intervention for sure would decrease the illness in the target group per se. Other health economic evaluations have that possibility, but they are also more complex and need both more time and resources to conduct (Drummond, et. al. 2005). They have, on the other hand, been criticized for not explaining the results in a comprehensive way for decision makers, which cost-consequence analysis does (Coast, 2004). Analyzing the data from a cost-consequence perspective allows decision makers how to better use societal resources. It also shows that it is not difficult to grasp the cost of a public health problem and the importance of preventing those problems.

The example of cost of illness only shows a part of what a child with child mental ill-health actually costs. One cost that has not been included was the cost of educating teachers to become leaders for the school programs. The reason for not calculating what it would cost to educate the teachers in the different programs is that the majority of the programs are international and it would not provide a complete picture of what it would cost in Sweden. But using one example for the cost of educating supervisors in Comet for Teachers Long; 20 000 SEK (Komet, n.d.) and with the assumption that it leads to education of several teachers for no extra cost could be viewed as a worthy cost action to prevent greater costs in the future (Feldman, 2013).

Future studies in this field are strongly recommended, where even more societal costs should be included in the health economic evaluation to be able to calculate possible public health and societal

benefits in preventive interventions.

7. Conclusion

The results show the importance of preventive interventions to reduce the economic burden of child mental ill-health. They can be used to decide how available resources could be reallocated to promote public health, while providing an overview of the actual cost of child mental ill-health and prevention costs. A main finding from this study is that a municipality's resources could be reallocated towards more preventive interventions for 184 children, for the same cost as having one teacher for a month for one child due to anxiety or depression.

Therefore, preventing child mental ill-health can save societal costs and provide a healthier life for children compared to the current standard practice of targeting the children's problems only after they have occurred. In light of this information, municipalities should rethink how they allocate their resources, strongly considering the use of preventive interventions.

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