



## **Child Participation and the Mechanisms for Generating Social Capital in the School Setting - Insights from a Health Promoting School Intervention 'We Act – Together for health'**

**Stjernqvist, Nanna Wurr**

*Publication date:*  
2018

*Document Version*  
Publisher's PDF, also known as Version of record

[Link back to DTU Orbit](#)

*Citation (APA):*

Stjernqvist, N. W. (2018). Child Participation and the Mechanisms for Generating Social Capital in the School Setting - Insights from a Health Promoting School Intervention 'We Act – Together for health'. Kgs. Lyngby, Denmark: Technical University of Denmark.

---

### **General rights**

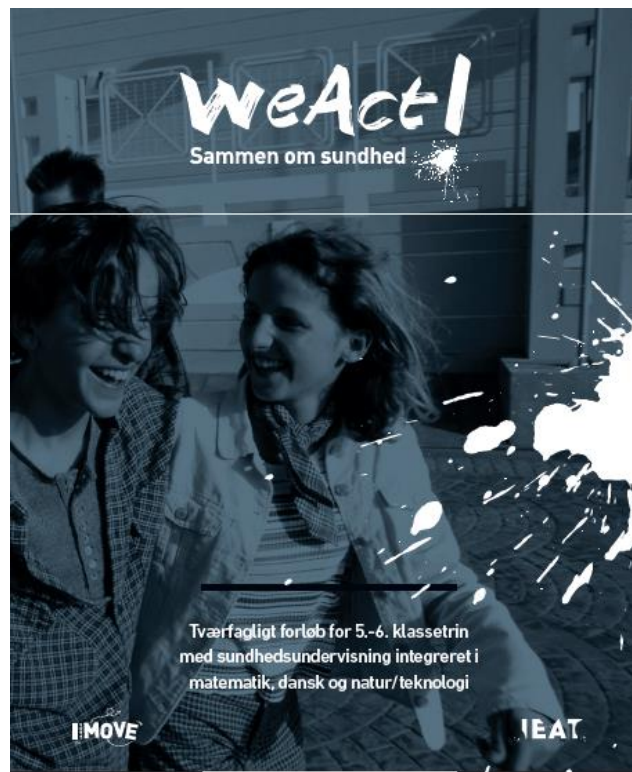
Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

# Child Participation and the Mechanisms for Generating Social Capital in the School Setting

*Insights from a Health Promoting School Intervention  
'We Act – Together for health'*



**Nanna Wurr Stjernqvist**  
**PhD thesis**

**Division of Risk Assessment and Nutrition**  
**National Food Institute, Technical University of Denmark**

**Diabetes Prevention Research**  
**Steno Diabetes Center Copenhagen**

**Child Participation and the Mechanisms for Generating Social Capital in the School Setting -  
Insights from a Health Promoting School intervention  
'We Act – Together for health'**

PhD thesis by Nanna Wurr Stjernqvist

**Main Supervisor**

Senior Researcher Ellen Trolle  
Division for Risk Assessment and Nutrition  
National Food Institute, Technical University of Denmark

**Co-supervisors**

Postdoc Marianne Sabinsky  
Division of Diet, Disease Prevention and Toxicology  
National Food Institute, Technical University of Denmark

Professor and Head of Health Promotion Bjarne Bruun Jensen  
Health Promotion Research, Steno Diabetes Center Copenhagen, The Capital Region of  
Denmark

Professor Helle Terkildsen Maindal  
Department of Public Health, Aarhus University and Senior Researcher at Diabetes Prevention  
Research, Steno Diabetes Center Copenhagen, The Capital Region of Denmark

Professor Inge Tetens  
Vitality – Centre for Good Older Lives, Department of Nutrition, Exercise and Sports,  
University of Copenhagen

**Assessment Committee**

Senior Researcher Rikke Andersen (Chairman)  
Division of Diet, Disease Prevention and Toxicology  
National Food Institute, Technical University of Denmark

Professor Pernille Tanggaard Andersen  
Unit for Health Promotion  
Department of Public Health, University of Southern Denmark

Associate Professor Audhild Løhre  
Department of Teacher Education  
Norwegian University of Science and Technology

## **Preface**

This PhD thesis has been conducted between 2015 and 2018 and was a part of a collaboration between the National Food Institute, Technical University of Denmark (DTU Food) and Steno Diabetes Center Copenhagen (SDCC). It has been a part of a multicomponent school health intervention 'We Act – Together for health' financed by Nestlé, Denmark (Nestlé Nordic). DTU Food has funded two-thirds and the SDCC Health Promotion Research has funded one-third of this PhD thesis.

'The We ACT – Together for health' intervention (hereafter We Act) originated with the aim: 'To improve the dietary habits, physical activity and well-being of Danish school children aged 8-12 years by improving the dietary quality of the packed lunches and between meal-snacks brought from home and by increased physical activity.' For this purpose, a multicomponent school and family-based intervention has been used targeting the children, their parents and teachers.

With a background in sociology and health promotion, the underlying construct was, from my perspective, not only a matter of promoting children's dietary habits and physical activity but also a matter of promoting health assets, like social capital within the school community. Additionally, I believed it was relevant to get a deeper understanding of the possible constraints and possibilities that children hold when engaging in school health promotion interventions.

Therefore, it has been important for me to emphasize on the social dimension of health when contributing to the development and assessment of the 'The We ACT – Together for health' intervention. Despite not being the easiest task, this is, from my perspective, both interesting and relevant when planning a school health promotion intervention.

Nanna Wurr Stjernqvist

Lyngby, September, 2018

## Acknowledgements

The creation of this thesis could not have been done without the indispensable help from many people. I would like to extend a special thanks to my supervisors. Inge Tetens for your constant support and optimism and making sure that I never lost my track. Ellen Trolle for stepping in as head supervisor in the second half of the PhD and being a great support in getting the PhD over the finish line. Bjarne Bruun Jensen, for your always insightful input throughout the period. Marianne Sabinsky for making the decision and including me in the We Act team and for great collaboration throughout the process. Helle Terkildsen Maindal, for your constructive input and critical questions when they were needed. Maria Bruselius-Jensen, who was very helpful in the beginning of the project, and your influence in making the decision to include me in the We Act team.

I would also very much like to thank Ane Bonde for being very helpful and being continuously available for sparring and Camilla Thyregod for stepping in with your statistical expertise, which was indispensable for doing the quantitative analyses. Dina Danielsen and Ida Foxvig were both also important contributors when doing the focus group interviews and collecting data.

A special thanks also goes out to Antony Morgan for your hospitality during my brief stay at the Glasgow Caledonian University in London and your contribution to Paper II in the thesis and Nicole Thualagant from Roskilde University for your key insights and co-authorship of Paper I. A special thank you also goes to Bjørn Holstein for your academic inspiration and great input at critical times and Mette Rasmussen for your guidance regarding the Health Behaviour in School Children (HBSC) survey.

I would also like to thank the National Food Institute, DTU and SDCC for the financial support without which it wouldn't have been possible for me to endeavor on this journey. A special thank you furthermore goes to my colleagues at DTU and SDCC for the academic and moral support during the three years.

A thank you must also be extended to all the children, parents, teachers and other school personnel, who volunteered some of their busy time. Without this, the We Act – Together for Health study and my PhD study would not have been possible.

A deep gratitude also goes to my family and friends and particularly Sarah Wurr Stjernqvist whose support and help in critical times has been extremely valuable for me.

Lastly, I will like to thank Daniel from the bottom of my heart for being the most patient and loving person throughout the whole process – and for being who you are. I could not have done this without you.

## List of papers

- I: Nanna W. Stjernqvist, Nicole Thualagant, Inge Tetens, Helle Terkildsen Maindahl. The development of social capital in the school setting through children's genuine participation. [Submitted]
- II: Nanna W. Stjernqvist, Marianne Sabinsky, Antony Morgan, Ellen Trolle, Camilla Thyregod, Helle T. Maindal, Ane H. Bonde, Inge Tetens. Building school-based social capital through 'We Act – Together for Health' – a quasi-experimental study. [Accepted for publication in BMC Public Health, 7 September 2018]
- III: Nanna W. Stjernqvist, Ane H. Bonde, Ellen Trolle, Marianne Sabinsky, Helle T. Maindal. Children's agency in building social capital and collective actions. [Submitted]

## Summary

### Background

Social capital has been found to be positively associated with various health and well-being outcomes amongst children. Less is known about *how* social capital might be generated. This is even more pronounced in relation to children in the school setting with children as active social agents in generating and utilising social capital. Based on the Health Promoting School intervention We Act the overall aim of this dissertation was therefore: To explore, evaluate and discuss how children's participation in everyday school activities and specifically in a participatory health educational process relates to the development of social capital in the school setting.

### Method

The background for paper II and paper III was the We Act intervention developed for schoolchildren grade 5-6 within the We Act research study that this PhD builds upon. We Act was viewed as an instrumental case on a participatory health educational process. The point of departure for paper I was a focus on children's experiences with their participation in everyday school situations. Social capital was operationalized as a dynamic multi-component concept with different indicators relating to the distinction between cognitive vs. structural social capital and the different 'types' including bonding, bridging and linking social capital, which can be viewed as practices. The method applied for paper I was an abductive research strategy based on 10 focus group interviews with children. The method applied for Paper II was a quasi-experimental controlled pre- and post intervention study design where multilevel ordinal logistic regression analysis was used to examine the effect of We Act. The method applied for Paper III was a multiple case study design based on a theory-driven abductive research strategy. Specific qualitative methods in paper III included focus group interviews with children, semi-structured interviews with teachers and school principals and participant observation.

### Results

Based on the children's experiences of participation in everyday school situations paper I identified three forms of participation relating to different practices and thus different opportunities and constraints of generating bonding and bridging social capital in the school



context. The study highlighted the importance of stressing pupils' genuine participation as an active social pedagogical principle in the school setting. Paper II found no significant effect of the intervention on cognitive social capital delineating between horizontal social capital and vertical social capital at the six-month follow-up. A negative effect was found on the social capital indicator 'sense of belonging in the school'. Paper III resulted in a conceptual framework that illustrated several mechanisms that interacted with the types of social capital and collective actions within a participatory health educational process. This indicated that working with child participation through the IVAC methodology can influence various types of social capital and collective actions though not without challenges. The framework, however, also emphasised on children's limited agency in terms of affecting bridging and linking social capital, norms of reciprocity and collective actions without sufficient support mechanisms at the school and class levels. This might contribute to an understanding of the negative effect found on 'sense of belonging in the school' while also shedding light on the mechanisms that were found to influence the dark side of social capital.

## **Conclusion**

This dissertation concludes that processes involving child participation interrelate with social capital indicators and social capital practices in the school setting. Without sufficient interactional and organisational support mechanisms at the class and school level, such indicators are, however, not likely to be sustained and processes involving child participation might affect negatively on indicators of social capital.

## Resumé (Danish summary)

### Baggrund

Social kapital har vist sig at være positivt forbundet med forskellige sundheds- og trivselsmål blandt børn. Viden om, *hvordan* social kapital kan genereres er dog begrænset. Dette er endnu mere udtalt i forhold til børn i skole-konteksten med børn som aktive sociale agenter i forhold til at generere og udnytte social kapital. Med baggrund i den sundhedsfremmende skoleintervention We Act var det overordnede formål med denne afhandling således: At udforske, evaluere og diskutere, hvordan børns deltagelse i dagligdags skoleaktiviteter og specielt i en deltagelses-orienteret sundheds pædagogisk proces er relateret til udvikling af social kapital i skolearenaen.

### Metode

Baggrunden for artikel II og III var We Act interventionen udviklet til skolebørn på 5-6. klassetrin indenfor rammerne af det overordnede We Act forskningsstudie, som denne ph.d. bygger på. We Act blev set som en instrumental case på en deltagende sundhedspædagogisk proces. Udgangspunktet for artikel I var et fokus på børns oplevelser med deres deltagelse i hverdags skolesituationer. Social kapital blev operationaliseret som et dynamisk multi-komponent koncept med forskellige indikatorer i relation til dimensionerne kognitiv og strukturel social kapital og "typerne" bindende, brobyggende og sammenkoblende social kapital, som kan ses som praksisser. Metoden anvendt til artikel I var en abduktiv forskningsstrategi baseret på 10 fokusgruppeinterviews med børn. Metoden anvendt til artikel II var et quasi-eksperimentelt kontrolleret præ- og post intervention studie-design, hvor multi-level ordinal logistisk regressionsanalyse blev brugt til at undersøge effekten af We Act. Metoden anvendt til artikel III var et multipelt casestudie design baseret på en teoretisk drevet abduktiv forskningsstrategi. Specifikke kvalitative metoder i artikel III omfattede fokusgruppeinterviews med børn, semistrukturerede interviews med lærere og skoleledere og deltagerobservation.

## **Resultater**

På baggrund af børnenes erfaringer med deltagelse i hverdagsskolesituationer identificerede artikel I tre former for deltagelse, der interagerede med forskellige former for praksisser og dermed forskellige muligheder og begrænsninger for at skabe bindende og brobyggende social kapital i skole-konteksten. Studiet fremhævede vigtigheden af at understrege elevemes genuine deltagelse som et aktivt socialpædagogisk princip i skolen. Artikel II fandt ingen signifikant effekt af We Act på kognitiv social kapital afgrænset til horisontal og vertikal social kapital ved seks måneders opfølgningen. En negativ effekt blev fundet på social kapital-indikatoren 'følelse af at høre til i skolen'. Artikel III resulterede i en konceptuel model, der illustrerede flere mekanismer, der interagerede med forskellige typer social kapital og kollektive handlinger under en deltagelsesorienteret sundhedspædagogisk proces. Studiet viste, at børns deltagelse ud fra IVAC-metoden kan påvirke typer af social kapital og kollektive aktioner, men at dette ikke er uden udfordringer. Modellen understregede således også børns begrænsede 'agency' i forhold til at påvirke brobyggende og sammenkoblende social kapital, gensidighed og kollektive handlinger uden tilstrækkelige støttemekanismer på skole- og klasseniveau. Dette kan muligvis bidrage til en forståelse af den fundne negative effekt på "følelse af tilhørsforhold i skolen" og uddyber samtidig de mekanismer der påvirkede den mørke side af social kapital.

## **Konklusion**

Afhandlingen konkluderer, at processer, der involverer børns deltagelse interagerer med social kapital indikatorer og social kapital praksisser i skolen. Uden tilstrækkelige interaktionelle og organisatoriske støttemekanismer på klasse- og skoleplan, vil sådanne indikatorer dog sandsynligvis ikke være vedvarende og processer der involverer børn kan ende med at påvirke indikatorer for social kapital negativt.

## **Abbreviations**

A&C phase: Action & Change phase

AIC: Akaike Information Criterion

BIC: Bayesian Information Criterion

DTU: Technical University of Denmark

HPS: Health Promoting School

HBSC: Health Behaviour in School Children

IVAC: Investigation, Vision, Action, Change

ML: Maximum Likelihood

OR: Odds Ratio

OSC: Occupational Social Class

SDCC: Steno Diabetes Center Copenhagen

SES: Socioeconomic Status

VPC: Variance Partition Coefficient

WHO: World Health Organisation

We Act: 'We Act – Together for Health'

# Table of Contents

Acknowledgements.....	I
List of papers.....	III
Summary .....	IV
Resumé (Danish summary) .....	VI
Abbreviations.....	VIII
1. Introduction.....	1
2. Background .....	3
2.1 Promoting Child Health and Well-Being .....	3
2.2 A Definition of Child Health and Well-Being.....	3
2.3 Schools as Settings <i>for</i> Health Promotion .....	4
2.4 Social Capital as A Health Asset .....	5
2.5 Social Capital in the Health Field.....	6
2.5.1 The social network approaches .....	7
2.5.2 The social cohesion approaches.....	8
2.6 Social Capital Concerning The Children .....	10
2.6.1 Defining social capital concerning children.....	12
2.6.2 Measuring child social capital.....	14
2.6.3 School’s social capital concerning child health and well-beings .....	16
2.7 Mechanisms for Generating Social Capital Concerning Children.....	18
2.7.1 Child participation.....	18
2.7.2 The health promoting school approach and the IVAC methodology .....	19
3. Aim and Specific Objectives.....	22
3.1 Overall Aim .....	22
3.2 Specific Objectives.....	22
4. The ‘We Act – Together for health’ Intervention.....	23
4.1 Intervention Theory and Hypothesis.....	23
4.1.1 The educational component .....	25
4.1.2 The school component .....	26

4.1.3 The parental component.....	27
4.1.4 Pilot study.....	27
4.1.5 My role in the We Act study.....	28
5. Methodology.....	29
5.1 Overall Research Design.....	29
5.2 Contextualising the Qualitative Research – The Two Case Schools .....	30
5.2.1 Case school A.....	31
5.2.2 Case school B.....	32
5.3 Qualitative Methodologies.....	33
5.3.1 Paper I – Study design.....	33
5.3.2 Paper III – Study design .....	36
5.4 Quantitative Methodologies .....	41
5.4.1 Paper II – Study design.....	41
5.5 Ethical Consideration .....	45
6. Results.....	47
6.1 Paper I: Children’s Experiences of Their Participation in Everyday School Situations in Relation to Social Capital .....	47
6.1.1 Child-directed participation .....	48
6.1.2 Child/adult-directed participation.....	49
6.1.3 Adult-directed participation.....	50
6.2 Paper II: The Effect of We Act on Children’s Perceived Cognitive Social Capital .....	51
6.2.1 Intervention participants and baseline characteristics.....	51
6.2.2 Effect of We Act on horizontal social capital.....	55
6.2.3 Effect of the We Act intervention on ‘vertical social capital’ .....	57
6.2.4 Effect of the We Act on ‘sense of belonging in the school’ .....	57
6.3 Paper III: Mechanisms Integrated into a Participatory Health Educational Process in Relation to Social Capital and Children’s Agency .....	60
6.3.1 Micro child level: Child participation .....	61
6.3.2 Meso class level: Teacher support.....	63
6.3.3 Meso School Level: Management support.....	65
7. Discussion .....	68
7.1 Main Findings .....	68

7.2 Paper I.....	69
7.2.1 Comparison with other studies.....	69
7.2.2 Methodological issues.....	71
7.3 Paper II.....	74
7.3.1 Comparison with other studies.....	74
7.3.2 Methodological issues.....	76
7.4 Paper III.....	80
7.4.1 Comparison with other studies.....	80
7.4.2 The We Act intervention theory.....	82
7.4.3 Methodological issues.....	83
8. Conclusion and Future Perspectives.....	87
8.1 Implications for Practice.....	88
8.2 Implications for Research.....	89
9. References.....	92
Appendix A.....	102
Appendix B.....	108
Appendix C.....	112
Appendix D.....	114
Appendix E.....	117
Appendix F.....	120
Paper I - III.....	123

## 1. Introduction

‘When the people of a given community have become acquainted with one another and have formed a habit of coming upon occasions for entertainment, social intercourse and enjoyment, that is, when sufficient social capital has been accumulated, then by skilful leadership this social capital may be directed towards the general improvement of the community wellbeing.’

(Hanifan, 1916, p. 131)

The connection between social capital and child health and well-being with the school as a natural centre for social capital building is far from new as emphasised in the above quotation. Yet, it was not until the beginning of the 1990s that the concept of social capital induced a profound attention in the field of health – especially following political scientist Robert Putnam’s conceptualisation (Eriksson, 2011; Kawachi et al., 2008).

Throughout the last decades, most studies within the child health field have focused on *how* social capital affects various health and well-being outcomes (McPherson et al., 2013). With a focus on various settings, including the school, these studies demonstrate that social capital is associated with a range of child health and well-being outcomes (McPherson et al., 2014; McPherson et al., 2013). While the lack of prospective studies prevents researchers from drawing any firm conclusion about the direction of these relationships, other questions remain unsolved. According to Harmpham et al. (2002, p. 107), ‘One of the obvious next steps after examining the association between social capital and health is for intervention studies to examine whether social capital can be increased/strengthened and, if so, whether this increased social capital leads to better health.’

Few studies have to date investigated *how* social capital is generated, though from a health promotion perspective, this is highly relevant (Eriksson et al., 2013; Pronyk et al., 2008). This is even more pronounced in relation to children in the school setting, although the school constitutes an important community from the children’s perspective (Morrow, 2001). As a



relatively closed entity, schools further provide a suitable setting, where interventions can be tested and linked to outcomes (Virtanen et al., 2013).

Both formal and informal participation through regular social interaction is, according to Putnam, a key component of social capital creation (Stolle, 2003). Research that explores *how* social capital is generated by children within the school setting, drawing on children as active participants, is however limited. Research that explores the effect of children's participation in decision-making processes in relation to development of social capital is likewise lacking (Morgan & Haglund, 2012). The overall aim of the dissertation is therefore to explore, evaluate and discuss how children's participation in everyday school activities and specifically in a participatory health educational process relates to the development of social capital in school setting.

The opportunity to explore these issues was provided by the Health Promoting School intervention 'We Act – Together for Health' (hereafter We Act). The intervention was inspired by the Health Promoting School (HPS) approach and democratic health education operationalised through the IVAC methodology, which stands for Investigation – Vision – Action – Change (Jensen, 1997). Both the approaches highlight children's active and genuine participation whenever school health educational activities are put forward. Hence, the intervention seen from my perspective, thus, served as an instrumental case (Stake, 2006) on a participatory health educational process, where the phenomenon of children's participation in a health educational process could be explored and linked to social capital outcomes.

The following section serves as a background to the analysis of the study (consisting of papers I, II and III) beginning with a presentation of the underlying construct followed by a summary of the theoretical debates and empirical evidence concerning the key concepts within the recent literature.

## **2. Background**

### **2.1 Promoting Child Health and Well-Being**

The promotion of children's health and well-being is recognised as a key priority for most societies now and in the years to come (Patton et al., 2016; WHO, 2013; WHO, Europe & WHO, 2014). First, childhood including early adolescence is a phase where children are developing the necessary emotional and social competences for successfully becoming independent adults. Health and well-being inevitably also influence these processes (Patton et al., 2016). Second, childhood and early adolescence includes phases where the foundations for individual health and well-being are laid down that might later determine health trajectories across the life course and thus, a society's collective future (Institute of Medicine, 2004; Marmot et al., 2010; Patton et al., 2016). Third, children's and adolescents' present health and well-being is increasingly being valued for representing an intrinsic value in itself (Korin, 2016).

### **2.2 A Definition of Child Health and Well-Being**

A growing body of evidence shows how children's health and well-being is a result of multiple determinants that interact in nested genetic, environmental, biological, behavioural, social and economic contexts that change over time (Halfon & Hochstein, 2002; Institute of Medicine, 2004; Marmot et al., 2010). The accumulation of these interacting determinants and their effects on subsequent health and well-being tend to broaden as children grow and enter new settings, such as the school. These interacting determinants might either be protective or damaging (Halfon & Hochstein, 2002; Marmot et al., 2010). A nuanced definition of child health and well-being, therefore, needs to address children's present life and well-being including the conditions affecting their present welfare, while acknowledging the importance of the developmental aspects of children's health and well-being. The Institute of Medicine (2004, p. 33) defines child health as: 'the extent to which individual children or groups of children are able or enabled to a) develop and realise their potential, b) satisfy their needs and c) develop the capacities that allow them to interact successfully with their biological, physical, and social environments'. This definition not only considers children as future human 'becomings' but also

as present human ‘beings’. Additionally, it highlights the multiple determinants that are influencing health and that health involves more than the absence of diseases in line with a salutogenic perspective (Antonovsky, 1996). Last but not the least, the definition emphasises children’s active participation and enablement in line with the Ottawa Charter (WHO, 1986) and the International Convention on the Rights of the Child.

### **2.3 Schools as Settings *for* Health Promotion**

As children mature, contexts and social determinants outside the family become increasingly important with major influences from the school context and peers (Bronfenbrenner & Morris, 1998; Patton et al., 2016; Viner et al., 2012). Schools have been recognised as key *settings* for promoting child health and well-being (WHO, 1986). Children spend around 40–50% of their waking hours at schools, and they offer opportunities to reach all school-aged children of diverse ethnic and socio-economic groups (Nielsen et al., 2015; Sancassiani et al., 2015). Moreover, from a child’s perspective, schools constitute important communities where children deal with everyday problems, develop friendships, learn to socialise and develop competences to participate as citizens in democratic societies (Morrow, 2001; Puolakka et al., 2014). Theoretically, different approaches of *settings* have been proposed. Green and Tones (2010) distinguished between the ‘health education within a setting’-approach and the ‘settings for health’-approach. These imply different ontological and epistemological perspectives on health and a shift from a traditional public health focus on preventing disease to the new public health focus on promoting health and well-being (Samdal, 2017). Where the traditional ‘health education within a setting’ approach often builds on a negative and narrow concept of health aimed at getting children to change health behaviour (to prevent disease) by focusing on traditional health education in the classroom, the *settings for* health approach, on the contrary, focus on the wider determinants for health and on promoting positive outcomes (Albeck, 2007). Hence, structural factors, such as the physical and social environment of the school, are acknowledged as important factors influencing health in line with the classic model of health determinants (Dahlgren & Whitehead, 1991). Promoting positive outcomes, what Morgan and Ziglio (2007) termed as *health assets*, such as building up action competence,

empowerment, trust and social capital at an individual and community level, are also perceived as essential elements within this approach (Green & Tones, 2010).

## **2.4 Social Capital as A Health Asset**

The current key health policy documents, including the 'HEALTH 2020 European policy framework and strategy', articulate health assets and asset-based approaches as levers for health policy actions (WHO, 2013, p. 133). The report, identifies social capital as a health asset and lever for policy actions in line with other key public health reviews and reports (Marmot et al., 2010; WHO, 2007). Within the political field, social capital has also been framed as a key health asset for child health and well-being. The WHO Health Behaviour in School Children Forum report 'Social cohesion for mental well-being among adolescents' (WHO, 2007) summarised what had been learned so far regarding the role of social capital as a health asset for child health and well-being:

'Findings from HBSC research over the past ten years confirm that the social environment within which young people live is important for their health and well-being now and in the future. Good relationships in the home, school and neighbourhood play a part in ensuring that young people can develop social competence and an ability to make the sort of relationships required for cohesive societies. The research presented here goes some way to confirming that the more protective factors or assets that can be accumulated, particularly through the adolescent years, the more likely young people are to be able to cope with adverse situations and, in some circumstances, thrive on them, even when they live in poorer circumstances' (WHO, 2007, p. 23).

Social capital, thus, has taken a prominent role in the current political health discourse as a potential health asset. Parallel to this, a growing attention has occurred in the academic health field though not without controversy and scepticism (Hawe & Shiell, 2000; Lynch, 2000).

## 2.5 Social Capital in the Health Field

Beginning in the nineties and then accelerating through the noughties, the concept of social capital has spurred a renewed interest in the connections between health and its broader social determinants (Baum, 1999; Kawachi et al., 1997). With the potential to further explicate the association between health and the ways individuals relate to their social networks and communities, the interest in social capital has increased extensively over the years (Moore & Kawachi, 2017). Yet, its entrance to the health field has not occurred without controversies (Lynch, 2000).

Perhaps, the most frequent critique of the concept in the literature is that the concept has been stretched to cover too many types of relationships (at different analytical levels), making it too broad with little heuristic value (Hawe & Shiell, 2000; Ottebjjer, 2005). Some authors argued for a more narrow conceptualisation, whereas other authors saw the complexity and multicomponent nature of the concept and strong link to broader social science theories as a strength (Harpham et al., 2002; Morgan & Haglund, 2012). The critique also relates to the measurement of social capital and what should be counted as its main components. Some authors like Woolcock (2001), for example, suggested that 'trust' should not count as a component of the construct of social capital, but rather be seen and analysed as an effect of social capital. Other authors, including Putnam (2000; 1993), saw it as a central component of the construct itself.

Social capital theories have also been criticised for neglecting the negative consequences of the concept – what has been termed 'the dark side of social capital' (Eriksson, 2011; Portes, 1998, Field, 2007). One example is the exclusion effect where members with similar characteristics such as ethnic background who share a strong bonding tie might restrict people with other characteristics from gaining access (Ottebjjer, 2005; Portes, 1998). Portes (1998) also argued that strong community ties might pose excess claims on individual members and limit individual expression in communities, while Putnam (2000) stressed how strong ties, such as the mafia, might pose a challenge to acceptable societal norms.

The concept's intellectual origins and importance to health nonetheless have a long history in the social science (Song, 2013). Some researchers argued how the concept has roots in classical social theorists' emphasis on the importance of mutual trust and solidarity to sustain a community and contribute to individual well-being as described in the work of Karl Marx [1818-1883], Emile Durkheim [1858-1917] and Max Weber [1864-1920] (Svendsen, 2001; Michael Woolcock, 1998). Other stances have highlighted the work of Tocqueville's [1805-1859] emphasis on associational life acting as a social glue in building democracy (Field, 2008; Song, 2013). At the micro level, Marcel Mauss' [1872-1950] and George Simmel's [1858-1918] notion of reciprocity through continuous commodity exchanges as essential for group identity and solidarity has been highlighted (Svendsen, 2001).

The renewed interest in the concept though is typically linked to the work of sociologists Pierre Bourdieu (1986) and James Coleman (1988) and political scientist Robert Putnam (1993) who are considered its modern proponents (Hawe & Shiell, 2000; McPherson et al., 2013; Ottebjer, 2005). This has led to two main approaches and conceptualisations of social capital that has been heavily debated. These include *the social network approach*, which views social capital primarily as an individual asset and *the social cohesion approach*, which sees social capital primarily as a collective asset (Eriksson, 2010; Ferlander, 2007; Moore & Kawachi, 2017). The two perspectives should not, however, be seen as mutually exclusive, and today most of the published literature recognises that social capital can operate at both levels (Kawachi, Takao, & Subramanian, 2013, p. 5).

### **2.5.1 The social network approaches**

Bourdieu (1986) described social capital (together with cultural and symbolic capital) as immanent forms of capital belonging to the individual through his/her membership in networks why the level of analysis is often at the individual level (Baum & Ziersch, 2003; Field, 2008, pp. 18–19). Bourdieu (1986) argued that social capital is partly independent and partly dependent on economic and cultural capital and thus, it functions to produce and reproduce structures of inequalities (Field, 2008). Bourdieu (1986), thereby, emphasised the role of power and inequalities in its production, as people with higher cultural and economic capitals are more

easily invited into powerful networks (Cox, 2017; Eriksson, 2010, p. 18). Bourdieu (1986) also explained that to utilise the resources embedded within one's networks, the agent needs to understand how the networks operate and how they can be maintained and utilised over time, which is what Bourdieu termed as *sociability* (Holland, 2009; Schaefer-McDaniel, 2004).

Coleman's (1988) work can be classified into the individual social network approach, even though he also emphasised that social capital facilitates collective action (Eriksson, 2010, p. 18–19). Contrary to Bourdieu, Coleman (1988) found inspiration in rational choice theory<sup>1</sup>, where social capital explains why people who are normally seeking self-interest choose to cooperate (Field, 2008, p. 24). Coleman (1988) argued that social capital is facilitated through social structures of 'closure' between agents within a network, and by a common shared ideology. The structures of closure are essential not only for imposing obligations and rewards but also for the impositions of sanctions (Field, 2008, p. 27). Coleman (1988) saw the nuclear family as the cradle for social capital creation through intergenerational ties, but he also highlighted institutions like the school. Coleman (1988), nonetheless, explained that social capital most often is created as a by-product of other activities, such as mothers' engagement and network formation in relation to the school (Coleman, 1988, p. 118). In doing so, Coleman, thereby, emphasised specifically on the parents' role in creating and transforming social capital to their children (Morrow, 1999).

## **2.5.2 The social cohesion approaches**

Inspired by the work of Putnam (1993; 2000), social cohesion approaches view social capital as a collective asset inherent into the structures of social relationships with analyses often at the organisational/community level or the interpersonal level (Moore & Kawachi, 2017). Putnam (1996, p. 1) defined social capital as 'features of social life – networks, norms and trust – that enable participants to act together more effectively to pursue shared objectives.' Putnam's definition has changed a bit over the years, but there are three components central to his definition: trust, norms of reciprocity and networks (Hooghe & Stolle, 2003). Following Coleman (1988), Putnam (1993, p. 167) argued that social capital has potential to facilitate

---

<sup>1</sup> This builds on a highly individualistic model of human behaviour, assuming that individuals normally pursue their self-interests (Field, 2008, p. 27).

collective actions and spontaneous cooperation for mutual goals. This means that the resources embedded in social capital can be viewed as public goods that accrue to all members of a community and not just individuals with special access (Glass et al., 2004). Putnam (2000) also stressed that social capital comes in different forms or types, including *bonding* and *bridging* social capital or what has been termed as *horizontal* social capital (Islam et al. 2006).

Bonding social capital refers to the connections between individuals who share similar social identities or characteristics. Strong bonding ties tend to create solidarity and support between its members. Bridging social capital, on the contrary, is characterised by its weaker ties between individuals with different characteristics or social identities (McGonigal et al., 2007; Putnam, 2000). On one hand, Putnam (2000, pp. 22–23) recognised that both bonding and bridging networks can have 'powerfully positive social effects'. On the other hand, and similar to Bourdieu's emphasis on the structures of inclusion and exclusion mechanisms, Putnam (2000) recognised the potential exclusive effect of bonding social capital in line with the 'dark side of social capital' (Portes, 1998). Bridging social capital, on the contrary, is characterised by being more inclusive, thus creating broader identities and reciprocity (Putnam, 2000, pp. 22–23). Woolcock (2001) introduced a third form of capital – *linking* social capital or *vertical* social capital, presumably the most profitable one (McGonigal et al., 2007). This reflects hierarchical or unequal social ties of individuals who hold different amount of power/resources and who are interacting across explicit, formal or institutionalised power or authority societal gradients such as classroom teaching (Islam et al., 2006; Szreter & Woolcock, 2004).

In Putnam's (1993) early writing, he explored the effects of social capital at regional and institutional levels (northern vs. southern Italy) in terms of governance and prosperity. Drawing on two decades of empirical data<sup>2</sup>, Putnam (1993) concluded that the relative successful institutional performance of the northern regions as compared to the southern was to be described in their level of civic engagement (social capital) and the mutual historical interrelationship between government and civic associations that had developed within the Northern regions (Putnam, 1993, pp. 114–115). Putnam (1993, p. 171), thus, described social

---

<sup>2</sup> Including historical material, personal interviews with regional councillors and community leaders, nationwide surveys, statistical measures of institutional performance and case studies of institutional politics and regional planning (Putnam, 1993, pp. 13–14).



capital as being self-reinforcing and bound to historical forces through virtuous circles. Inspired by Tocqueville's communitarian perspective, Putnam viewed voluntary associations as drivers for social capital because of their socialising effect on democratic and cooperative values and norms (Stolle, 2003). The most important mechanism for the generation of norms of reciprocity and trust was seen to be regular social interaction (Putnam, 1993, pp. 172–173). Criticised for being circular and path dependent arguing that Putnam needed to separate *source* from *effects* (Portes, 1998; Woolcock, 2001) and for neglecting the role of political institutions and public policy (Harriss & De Renzio, 1997) in his later writings and the landmark book *Bowling Alone*, Putnam amended the path dependent view and introduced a distinction between long-term and short-term forces (Stolle, 2003). Contemporary policies and structures (both public and private) could thus be installed to facilitate social interaction and civic engagement. This entails the relationship between an individual's participation or membership that has been termed structural social capital and an individual's cognitive values and attitudes, also known as cognitive social capital (Stolle, 2003, p. 22). Putnam (2000) also suggested civic education as one potential way to increase social capital through children's active participation in decision-making processes within the school setting. Putnam and Feldstein (2004) later outlined some overall *processes* of social capital creation, but did not elaborate on the underlying theoretical mechanisms behind such process in relation to the school setting.

Within the health field, social capital has been most commonly framed and utilised in the context of the work of Putnam and the social cohesion approach (Eriksson et al., 2013; Kawachi, 2006). The majority of research has moreover been concerned with its relation to health and well-being in the adult population (Kawachi & Berkman, 2000; Lindström et al., 2001).

## **2.6 Social Capital Concerning The Children**

Empirical and theoretical knowledge on social capital and child health and well-being was thus more or less absent until the end of the nineties, with a few exceptions (Jack & Jordan, 1999; Morrow, 1999). Beginning with Morrow (1999), who criticised both Coleman's (1990, 1988) and Putnam's (1993) conceptualisation for neglecting children's agency in generating and utilising social capital on their own, recent theorists within the field have agreed that children's

own agency and involvement has to be taken into account (Allan & Catts, 2014; Leonard, 2005; McPherson et al., 2014; Morrow, 1999, 2001; Schaefer-McDaniel, 2004; Weller, 2006). These accounts draw on the paradigm of the sociology of childhood (James & Prout, 1997), where the notion of child agency emphasises on children's role as social agents (Morgan & Haglund, 2012). This means that children are seen as individuals who through their actions, both individual and collective, can influence their relationships and decision-making processes (Santi & Masi 2014, p. 6). Recent theorists within the field of child social capital have also argued for the relevance of the school setting as an important community in relation to children (Bassani, 2007; McPherson et al., 2013, 2014).

Morrow (1999), moreover, criticised Putnam's definition for its specific focus on 'civic participation' and 'civic engagement', saying how children qua being children are often excluded from civic participation. Additionally, she criticised Coleman's (1988) weighting of the nuclear family and the role of parents in transforming social capital towards their children (Morrow, 1999). Leonard (2005) further elaborated this critique and argued that Coleman's concept of intergenerational ties is too much focused on adult relationships, and thereby, tends to neglect children's peer relationships. Morrow (1999) also criticised the US proponents for taking a rather static and quantitative approach to social capital contrary to Bourdieu. Morrow (1999) thus argued for the relevance of Bourdieu's (1986) individualistic conceptualisation of social capital due to Bourdieu's emphasis on the relatedness of social capital to other forms of capital rooted in practices of everyday life. Leonard (2005), nonetheless, questioned Bourdieu's notion on the ability of social capital to be transformed to other forms of capital in relation to children. The issue of transformability of social capital was later explored empirically within the community and school context by Allan & Catts (2012 p. 218), who stressed on the situatedness of social capital and the lack of transformability of social capital in relation to children. One might also question Bourdieu's notion of child agency in his approach to social capital. His rather deterministic approach to the social determinants of social inequality does not leave space for exploration regarding how children might also affect the environments that they are embedded in (Jenkins, 1982; Weller, 2006).

Other authors such as Schaefer-McDaniel (2004) and Weller (2006, 2007) have extended the ideas of Coleman and Putnam's conceptualisation of social capital in relation to children. Schaefer-McDaniel (2004) argued how all the 'theoretical fathers' can contribute fruitfully to an understanding of social capital as it relates to children, though children's agency should be acknowledged. She suggested a conceptual model that highlights three dimensions of social capital, 'social network and sociability', 'trust and support' and 'sense of belonging', that was applied in an empirical study on the effect of a cultural intervention on social capital among children (Hampshire & Matthijsse, 2010). While the first dimension is in line with the social network approach emphasising on Bourdieu's notion on social networks and sociability, the second dimension emphasises on trust and reciprocity in line with the social cohesion approach. The third dimension refers to a child's symbolic place attachment, i.e., a child's sense of feeling that she/he belongs to a group/environment, where she/he has an influence and can be seen in line with Putnam's conceptualisation and the social cohesion approach (Schaefer-McDaniel, 2004).

Weller (2006) also extends Putnam's notion of social capital using the different types of social capital when exploring adolescents' alternative civic engagement in a spatial context though she emphasised its more dynamic element. Via examples of bridging and linking social capital with key decision-makers, Weller (2006) illustrated the positive outcome of young people's civic engagement and actions while also pointing towards structural constraints faced by teenagers and mechanisms of exclusion (Weller, 2006) in line with (Hampshire & Matthijsse, 2010). Alternative forms of participation and engagement in relation to young people was later confirmed in study by Billett (2011). This underlines how children's participation may look different from that of adults.

### **2.6.1 Defining social capital concerning children**

In research terms, opposing the main conceptualisations thus is not helpful. Though explicating our attentions and goals for children will help explain why one conceptualisation might be more important than the other for the research question in mind (Morgan and Haglund, 2012). In that respect I argue that a nuanced conceptualisation of social capital, inspired by the works of Putnam (1993, 2000) and the recent theories of child social capital (Allan & Catts, 2012, 2014;

McGonigal et al., 2007; Schaefer-McDaniel, 2004; Weller, 2006) can be useful in relation to my overall research aim. This views social capital as a collective resource inherent into the structures of social interactions and relationships between individuals within specific contexts, based on elements of trust and reciprocity. It delineates between different dimensions and types of social capital, that are transformative, and emphasises children's active agency in generating social capital.

This conceptualisation follows recent studies within the field of school health promotion, which looks at social capital as an ecological entity residing at school and class levels (Neely et al., 2016; Rowe & Stewart, 2011; Rowe et al., 2007; Sun & Stewart, 2007). This is also in line with the UN's convention on the right of the child that underlines the need to consider children as active participants whenever school health promotion initiatives are put forward. Though, we need to consider different forms of participation relevant for children rather than those relevant for adults and their specific understanding of the environment and community (Billett, 2011; Weller, 2006). The distinction between different 'types' of social capital including bonding, bridging and linking social capital has also been found fruitful in the school setting recognising the different values inherent into different networks (Allan and Persson, 2015; McGonigal *et al*, 2007).

A nuanced collective perspective, nonetheless, needs to recognise children as active social agents in generating and utilising social capital on their own (Allan & Catts, 2014; Leonard, 2005; McPherson et al., 2014; Morrow, 1999, 2001; Schaefer-McDaniel, 2004; Weller, 2006). Additionally, a nuanced perspective needs to acknowledge different forms of inclusion and exclusion mechanisms that might hinder some children from participation and, therefore, pose potential harmful effects for some individuals, as described in the different types of social capital and the dark side of social capital. Finally, recognising the critical voices in terms of focusing exclusively on the static quantitative outcomes rather than the processes, a nuanced perspective should acknowledge the dynamic, transformative and spatial aspects of social capital, as it relates to children in the school setting similar to Bourdieu's more fluent conceptualisation (Allan & Catts, 2012, 2014; Weller, 2006).

## 2.6.2 Measuring child social capital

### Quantitative studies

Ferguson (2006) described some of the early adult-oriented quantitative indicators of social capital in relation to child health and well-being with the parents as the main respondents (Morgan, 2011). Newly developed indicators, on the contrary, draw directly on children's perspective (with children being the respondents) and various dimensions, which underlines the multi-component nature of the concept (ibid). Social cohesion approaches tend to use indicators related to the *cognitive* and *structural* dimensions of social capital (Harpham et al., 2002) in different settings including the school. Applied to the school setting, structural social capital may refer to child-school relations and participation in networks such as participation in extracurricular activities, school clubs or after-school centres. Cognitive social capital, on the other hand, relates to a child's subjective perceptions of trust and support and the sense of belonging that arises from these interactions (De Clercq et al., 2016; De Clercq et al., 2014). In addition, Morgan and Haglund (2012) argued for the relevance of using the different types of social capital that are likely to hold different effects on health and well-being (Kawachi, 2010). The distinction between horizontal (trust and support in pupils) and vertical social capital (trust and support between in teachers) has later been operationalized by De Clercq et al. (2014). While quantitative methods so far have been widely applied, Harpham (2002) warned of only using quantitative methods, as the static nature of surveys cannot capture the dynamic nature of the concept. Following Morgan (2011) this thesis therefore argues for the relevance of including both quantitative and qualitative methods to highlight associational links (from surveys), meanings and perceptions (from qualitative data), as well as actions that can be put into practice (from intervention studies).

### Qualitative studies

Within the Schools and Social Capital Network<sup>3</sup>, Allan and Catts (2012) argued for a qualitative operationalisation of social capital that related to the various types of social capital and trust and norms of reciprocity. Recognising the difficulties in trying to confirm and quantify the

---

<sup>3</sup> It was established within the Applied Educational Research Scheme, a major program of research and capacity building in Scotland funded by the Scottish Government and the Scottish Funding Council (Allan & Catts, 2012).

amount of existing types of social capital, Allan and Catts (2012; 2014) argued for a nuanced operationalisation of social capital with an emphasis on social capital as a continuous process or *practice* rather than a static state as implied by Putnam. Analytically, this implies a qualitative focus on spaces and activities where social interactions are bounded, develop and transform guided by certain rules and norms and to look at social capital practices that might be bonding, bridging or linking and their effects (Allan & Catts, 2014). Rather, than quantifying the amount of bonding, bridging and linking social capital *per se*, this perspective therefore allows to account for practices of bonding, bridging and linking social capital and their effects (Allan & Catts, 2014; Baerenholdt & Aarsaether, 2002).

Applied to the school setting, bonding social capital has been defined as the homogenous ties of children who share similar social identities and/or characteristics that may be found within departments (McGonigal et al., 2007) such as being classmates, same gender and grade level, which tends to provide support to its members and inward-looking identities, while simultaneously being exclusive in line with the dark side of social capital (Putnam, 2000). Bridging social capital, on the contrary, has been defined as being more inclusive by involving ties of children from diverse contexts (McGonigal et al., 2007), such as being from different classes, grade levels, gender and/or social identities, thereby creating broader identities. Linking social capital has been operationalised as the ties of unequal persons, such as children and teachers or children and other adult school staff (De Clercq et al., 2016, 2014).

It is almost impossible for an individual empirical study to embrace the complexities of social capital by including the range of distinctions and sophistications made in the literature. Rather, individual studies can make individual contributions to the pieces of the jigsaw (Stjernqvist et al., in press - Paper III.). The current study (consisting of papers I, II and III) focuses on different social capital dimensions and types that can be combined differently as underlined in Figure 1. Paper I and paper III focus on the different types of social capital and uses the distinction between bonding, bridging and linking social capital that can be understood as practices. Paper II focuses on the cognitive dimension and furthermore includes the distinction between horizontal and vertical social capital.

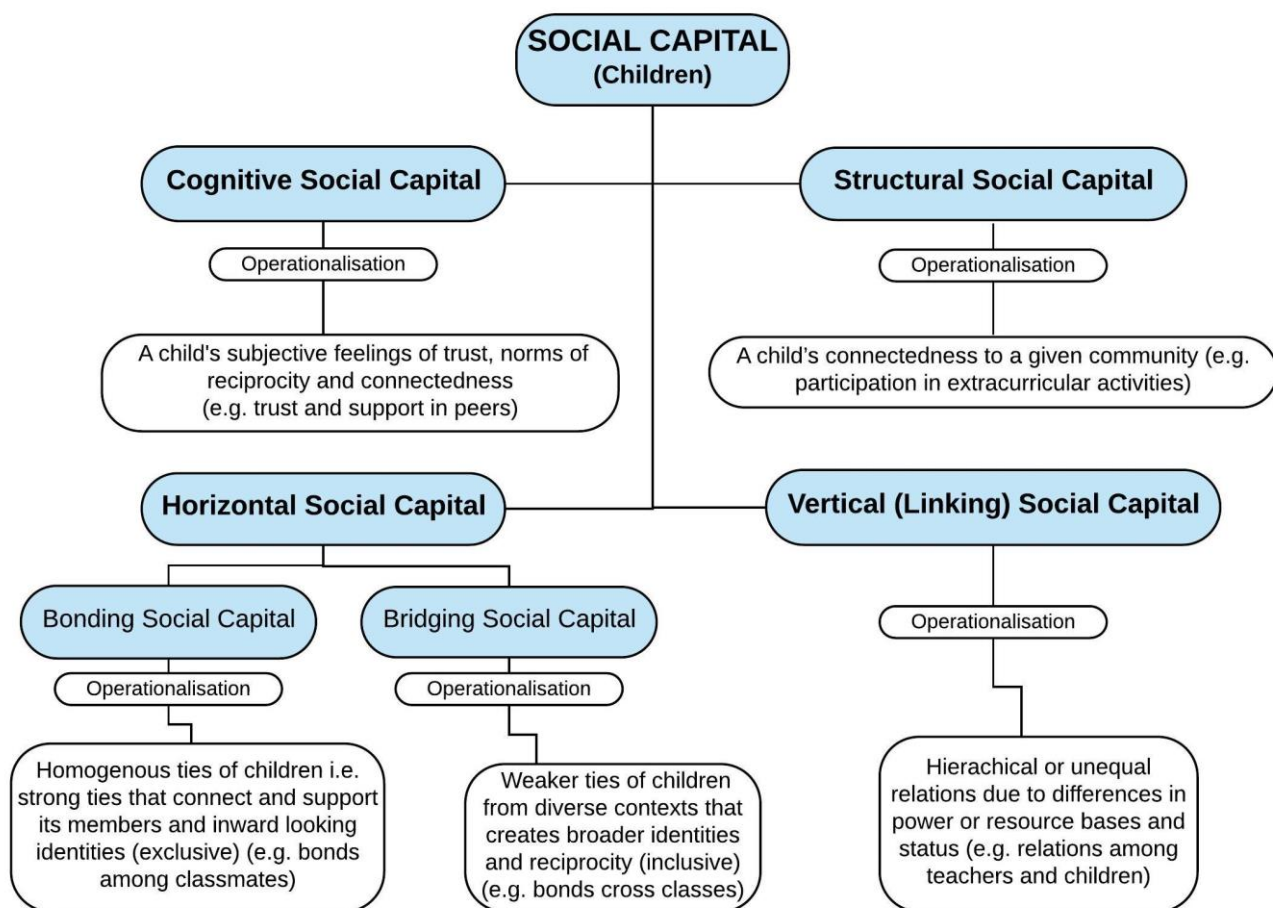


Figure 1: Dimensions and ‘types’ of social capital in relation to children with operationalisations from empirical studies adapted from Islam et al. (2006).

### 2.6.3 School’s social capital concerning child health and well-beings

An increasing number of studies point towards positive associations between social capital and various health and well-being outcomes among children (Stjernqvist et al., in press - Paper III.). Recent systematic reviews on the link between health risk behaviours, mental health and behavioural problems and the various indicators of social capital in different context including the school have confirmed its importance to child health and well-being (McPherson et al., 2013, 2014). The strength of the associations varies depending on the outcome, and the dimension of social capital taken into account. In some cases, negative associations were even observed. Young people with wide peer networks were, for example, found to have increased risk of using tobacco, though not directly related to the school setting (McPherson et al., 2013).

In relation to health promotion behaviour, recent studies find positive associations between social capital in the school context and student physical activity levels (Button, Trites, & Janssen, 2013; Franzini et al., 2009). Individual perceptions and school contextual indicators of school social capital have also been associated with lower body mass index for students (Richmond et al., 2014). The positive association with mental health among adolescents and school social capital, measured by trust in the school class, was later confirmed in a Danish cross-sectional study (Nielsen et al., 2015). The protective role of a trusting and supporting teacher relation in regards to promoting student well-being and limiting risk behaviour was also emphasised in a systematic review and meta-ethnography of qualitative research (Jamal et al., 2013). De Clercq et al. (2014) also found vertical social capital in the school to be inversely related with regular smoking, while horizontal social capital was found to be positively related to regular smoking.

While the underlying mechanisms between these associations still need to be further explored, school communities rich in cross-cutting networks are likely to be more inclusive, cohesive and to act collectively on shared objectives (Albeck, 2007; Granovetter, 1973). Such communities might also be expected to have increased exchange of information, which might ease the opportunity to gain resources and develop healthy norms for the benefit of all in the community (Albeck, 2007; Eriksson, 2010). Strong bonding friendships also provide valuable resources for children in terms of socioemotional support and cognitive resources (Morgan & Haglund, 2012; Weller, 2007).

With an increasing interest in the associations between social capital and various child health and well-being outcomes, as summarised in the above, a natural next step might therefore be to explore and test how social capital is generated (Morgan & Haglund, 2012). This is, so far, insufficiently explored empirically as well as theoretically (Eriksson et al., 2013; Hooghe & Stolle, 2003).



## 2.7 Mechanisms for Generating Social Capital Concerning Children

### 2.7.1 Child participation

The relatively few public health and health promotion intervention studies, with the aim to target social capital, seem to suggest that social capital has yet to be integrated into health promotion interventions (Moore et al., 2010, p. 189). A challenge has been to apply social science theory within health promotion models and practices. As stated previously, the theoretical fathers say less regarding *how* social capital develops with children as active agents. Because Putnam says little regarding children's active participation in the school setting, though values of democracy and children's development of democratic skills is embedded in the educational practice in Denmark (Ringsmose & Krag-Müller, 2017) I find inspiration from Roger Hart (1992). Hart (1992) proposed a definition of children's participation that underlines the link between democracy and participation (Simovska, 2004). Hart (1992, p. 5) defined participation as 'a process of sharing decisions which affect one's life and the life of the community in which one lives. It is the means by which a democracy is built and it is a standard against which democracies should be measured' (Hart, 1992, p. 5). Moreover, Hart (1992, p. 5) emphasised that to develop competences of citizenship children need to be actively involved in decision-making processes.

To operationalise the concept of participation, Hart (1997) developed a participatory ladder to serve as a beginning typology of child participation. The five upper steps represent the different forms of participation ranging from 'child-initiated shared decisions with adults', 'Child-initiated and directed' to 'assigned but informed', while the three lowest levels represent the various forms of non-participation. Simovska (2004) introduced the concept of child participation in the school setting in the context of democratic health education (Jensen, 1997, Simovska and Jensen, 2009). Drawing on Harts participatory ladder she developed a model that distinguished between *genuine* and *token* participation. The latter refers to education where pupils most learn and accept a specific content and where pupils do not have much influence on the process and content. By contrast, genuine participation is characterised by a less hierarchical power balance between teachers and pupils and focuses on the reflection on personal meanings and on different ways on constructing knowledge (Simovska, 2004).

To date, few studies have explored how social capital is related to children's participation in the school setting, drawing on the concept of participation and children's perspective. One study that has explored this in the school setting was a qualitative study on children's perceived participation in the school setting conducted in a relatively deprived area in England (Morrow, 2005). Morrow (2005) found that children perceived their participation in the school setting as being rather ambiguous and limited. Morrow (2005) concluded that in relation to children, the concept of participation had to be viewed in terms of the broader context of the school as well as the inherent relationships within the school, but she did not report on this in more detail.

### **2.7.2 The health promoting school approach and the IVAC methodology**

Few studies have to date, furthermore, explored social capital interventions within the school setting in relation to school health promotion more broadly speaking or health education in specific (Virtanen et al., 2013). A common characteristic of the few existing qualitative studies that have explored the processes of social capital generation within the school setting is the distinction in sources between the organisational (structural) mechanisms that are required to make connections happen and interactional (processes) mechanisms in people interacting (Cox, 2017; Rowe & Stewart, 2009, 2011; Shoji et al., 2014).

One approach that embraces these two distinct processes, while also highlighting children's genuine participation whenever health promotion initiatives are put forward is the Health Promoting School (HPS) approach (Jensen, 1997; Jensen & Simovska, 2005). The HPS approach builds on the 'setting *for* health promotion' approach that stresses health assets including social capital (Albeck, 2007; G. Buijs, 2013). By looking beyond traditional health curriculum, the HPS approach considers the structural actions and changes in the physical and social environment crucial in creating supportive environments for promoting children's health and well-being (Lee, 2012; Simovska, 2012b, Tones & Green, 2010). Though no single definition of a HPS exists, a recent Cochrane review on the effect of the HPS approach on child health and well-being highlighted a three-point definition with changes in at least three areas of school life: 'Formal health education', 'Ethos and environment of the school' and 'Engagement with families and Communities or both' (Langford et al., 2014).

Within the HPS framework and drawing on the paradigm of democratic health education, Jensen (1997) developed a practical health educational methodology termed IVAC. This stands for Investigation – Vision – Action – Change. This methodology emphasises that pupil participation is essential and crucial for sustainable health education and HPS programmes (Simovska & Jensen, 2009). This methodology has been found useful in building students' action competence in health (Carlsson & Simovska, 2012; Ruge et al., 2014) and in reducing the prevalence of overweight children (Llargues et al., 2011). A systematic review on the effect of student participation in school health promotion furthermore found evidence for positive effects on interactions and social relation in the school (Griebler et al., 2014). Yet, to my knowledge, no study has to date explored the relation between the IVAC methodology and the indicators of social capital.

Qualitative studies have recently begun exploring the potential of the HPS in terms of promoting social capital in the school setting (Neely et al., 2016; Rowe & Stewart, 2009, 2011; Rowe et al., 2007, Sun & Stewart 2007). Rowe et al. (2007) argued how whole school approaches, such as the HPS, had potential to develop school social capital or what they termed as school connectedness. School connectedness was operationalised as an ecological entity (contrary to the individualistic accounts) characterised by strong social bonds, featuring high levels of interpersonal trust and norms of reciprocity (following the school cohesion approach). Rowe and Stewart (2009) later found a number of key processes and structural aspects as a part of HPS, which seemed conducive for promoting social capital at the class and school level, including what they termed as 'student centred approaches'. They did not, however, explore the interrelation between a participatory health educational process applying the IVAC methodology and the different types of social capital. Neither, did they investigate children's agency in such processes.

Few quantitative studies have, to date, investigated the potential of the HPS approach in terms of promoting social capital. Sun and Stewart (2007) showed, in a prospective study, a statistically significant relationship between the HPS indicators and social capital, which indicated that the HPS was conducive for promoting social capital (Sun & Stewart, 2007). This study, however, only reported from the perspective of adults (teachers) and not on the effects

of child perceived social capital. Empirical knowledge is, thus, lacking, which explores mechanisms for developing social capital in the school setting, as seen from children's perspective, drawing on the concept of participation. Empirical knowledge that investigates the effect of the HPS and the IVAC methodology on children's perceived social capital and explores the mechanisms that influence social capital and collective actions in a participatory health educational process and critically discuss children's agency in such processes, is moreover, limited. This leads me to this study's overall aim and specific objectives.

### **3. Aim and Specific Objectives**

#### **3.1 Overall Aim**

This dissertation's overall aim is to explore, evaluate and discuss how children's participation in everyday school activities and specifically in a participatory health educational process relates to the development of social capital in the school setting.

#### **3.2 Specific Objectives**

1. To explore children's experiences and negotiation of their participation in everyday school situations and to contribute to an understanding of the mechanisms for children's development of social capital in the school setting drawing on the concept of participation. (Paper I)
2. To evaluate the effect of the 'We Act – Together for health' Health Promoting school intervention on child perceived cognitive social capital in the school setting. (Paper II)
3. To explore the mechanisms within a participatory health educational process that influence social capital and collective actions in the school context, and to discuss children's agency in such processes. (Paper III)

#### **Demarcation**

The three studies focus on school children aged between 10 and 12 (grade 5-6) within the Danish public-school context. Two of the three studies (papers II and III) draw directly on the We Act intervention, whereas Paper I departs from the focus on children's participation in everyday school situations.

## **4. The ‘We Act – Together for health’ Intervention**

This PhD study was conducted concurrently with the development and implementation of the We Act intervention, on which papers II and III draw on. We Act was a multidimensional HPS intervention developed for grade five and six within a Danish school context. The intervention objectives were to promote dietary habits, physical activity, well-being and social capital among pupils through developing their action competence, social competences and promoting a healthy school environment (Sabinsky et al., in press). The intervention was implemented at four Danish public schools over a period of six months from December 2015/January 2016 to May 2016/June 2016.

### **4.1 Intervention Theory and Hypothesis**

Theoretically, We Act was inspired by the HPS approach and democratic health education (Jensen 1997; Simovska and Jensen 2009). Following the three-point delineation of the HPS approach in the Cochrane review conducted by Langford et al. (2014), the HPS was, in the We Act, operationalised through (1) an educational component, (2) a school component and (3) a parental component (Figure 2). To operationalise democratic health education, We Act used the practical pedagogical IVAC methodology (Carlsson & Simovska, 2012; Jensen, 1997). Inspired by Paulo Freire’s (2000) five-step strategy to facilitate authentic dialogue and empowerment, the IVAC methodology draws on a circular pedagogical approach where pupils are actively involved in the decision-making processes that are supported and encouraged by teachers (Simovska & Jensen, 2009). Following the IVAC methodology, We Act occurred at two organisational levels: the class and school level (Figure 2). The circular process illustrates 1) the flexibility to move backwards and forwards between different phases and 2) the process could be repeated for each school year with new classes.

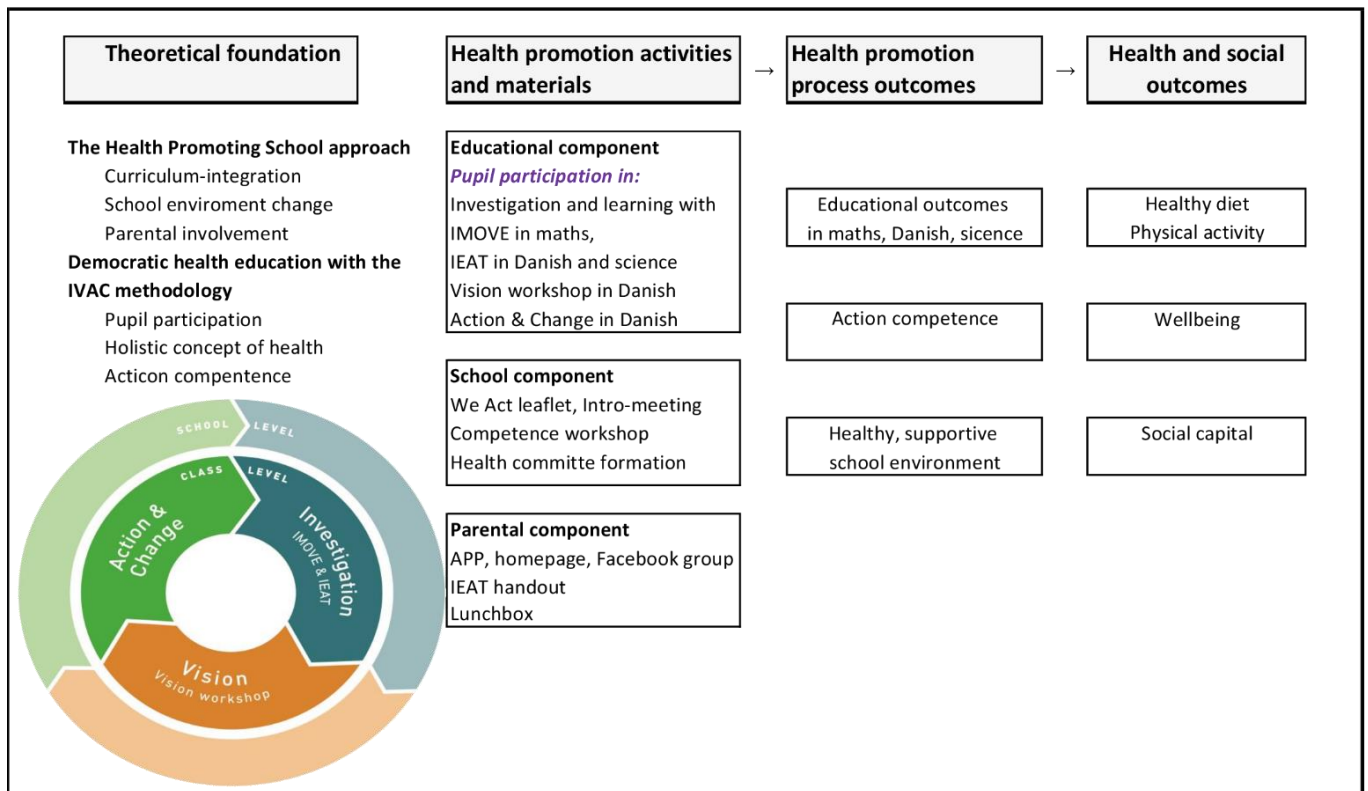


Figure 2: Intervention theory for We Act via HPS intervention.

In relation to the selected indicators of social capital (delineating between horizontal social capital, vertical social capital and sense of belonging in the school), the program theory specified some proposed causal mechanisms at the class and school level, respectively (Figure 3 as inspired by Glass et al. (2004)).

At the class level, we anticipated that the children’s participation in We Act would facilitate horizontal social capital, vertical social capital and a sense of belonging in the school among the children. Participation was planned to be facilitated through interactional processes of authentic dialogue, real life and social activities mixing peers, children’s influence on content and process and working outside of the classroom.

At the school level, we anticipated that the participation of the school staff’s and parents’ in We Act would support facilitation of horizontal social capital, vertical social capital and a sense of belonging in the school among the children. The support was planned to be facilitated through organisational processes of the school staff competence in democratic health education, school management commitment, parent support and support from health

committees to take actions (Stjernqvist et al., in press - Paper II).

The hypothesis was that children’s participation in a participatory health educational process following the IVAC methodology supported by organisational processes would promote children’s social capital.

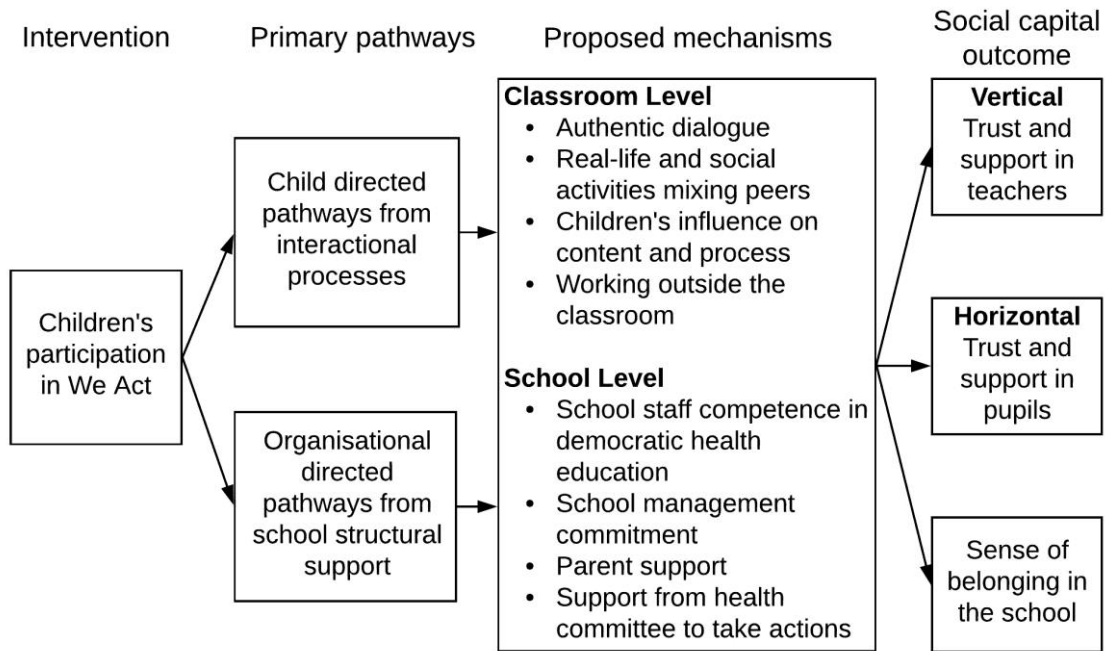


Figure 3: We Act intervention and proposed mechanisms for change in children’s social capital inspired by Glass et al.(2004).

#### 4.1.1 The educational component

The educational component comprised three educational materials following the IVAC methodology. In the Investigation phase, during the first week, the children collected data individually logging their food in a diary (IEAT), while also making a class scheme and collecting steps using a pedometer (IMOVE) (Sabinsky et al., in press). Next, the children worked on math assignments with their own data and discussed their movement patterns with their teachers. In IEAT, the children worked in groups, formed by the teachers, on the national diet advises preparing a presentation for the class, worked on personalising a hand-out ‘My food and meals in the school’ to take home and discuss with their parents and read stories on food and meal



culture in different countries and developed their own food class rules.

In the vision phase, the children were encouraged to imagine future visions for HPS. The core principals were: 1) To think of collective actions, 2) the children take part in the decision-making process and 3) To focus on food, movements and well-being. After brainstorming, thematising and voting the children hereafter worked in groups, formed by the teachers, based on each child's interest. Next, the children presented their visions for parents, representatives from the school management, children from other classes and the health staff (Sabinsky et al., in press).

This was followed by 'action and change' phases, wherein the pupils, supported by teachers and the school management in the form of a health committee, take actions to move closer to attaining their vision. Their work could be continued in subjects like Danish, Home Economics, or as a part of the newly introduced Supportive Education with lessons scheduled at the end of the school day, where primarily pedagogical personnel are free to organise various activities. The material also encouraged teachers to collaborate across class subjects and possibly also with the children's families and the community.

#### **4.1.2 The school component**

The school environment component comprised four elements: 1) A We Act leaflet distributed at the four schools prior to the intervention describing the objectives, the core principals, the main activities and the resources needed to implement the We Act intervention, 2) An introduction meeting with the school principals and the relevant Danish and math teachers aimed at preparing and agreeing on the implementation process, 3) A competence workshop on democratic health education and the IVAC methodology aimed at qualifying all the involved staff and 4) The formation of a health committee (comprised teachers, school management representatives and health staff). At the competence workshop, the participants were encouraged to form a health committee or use an existing network to support the children's visions from the vision phase to the action and change phases at the class level and expand the most successful visions to other classes at the school level.

### **4.1.3 The parental component**

The parental component consisted of six components: 1) An App was developed for the parents to use, which contained topics of inspiration for packed lunches in relation to every day practices regarding packed lunches, dietary guidelines in general and regarding packed lunches, 2) A hand out – ‘My food and meals in the school’ where children, as described communicated with their parents, regarding their individual preferences and what food and meal rules the class had created, 3) A Facebook group was formed to allow parents to get inspiration for packed lunches and communicate, 4) A homepage targeting the parents was developed for communication and dissemination of relevant information about the project, 5) Invitation to the children’s vision presentations during school hours and 6) A lunch box was also given to each child to increase awareness of the intervention in the home setting.

### **4.1.4 Pilot study**

A pilot study was conducted from May 2015 to October 2015 with a Danish public school and a participating 5th grade class. IMOVE had already been developed and tested earlier and found to be suitable to promote child participation (Bruselius-Jensen et al., 2016; Bruselius-Jensen et al., 2014). Hence, the pilot study focused on exploring the workability of IEAT, and the vision workshop including the action and change phase regarding their potential for involving pupils actively in line with the core principals of the We Act. Additionally, it also explored the participant’s experiences with the different components in relation to the social environment and in testing the accompanying research measures on the social capital indicators. The questionnaire was tested by all pupils and further explored in a focus group interview with five pupils. Findings illustrated that the children did not find the questionnaire difficult to complete and the online survey method worked well in the classroom context. The original school component involving the set-up of a health committee at the school level intended to engage in a broader IVAC school health policy process was not pilot-tested. This was because the pilot school declined to participate due to time constraints and lack of resources. Because of the pilot study and reluctance in the recruitment process of schools to participate in a more extensive school health policy process, the school level component was reduced.

#### **4.1.5 My role in the We Act study**

I participated in the development and implementation of the We Act intervention. My main contributions related to the educational component for the vision and the action and change phases, where I participated in the development and pilot-testing. I was also responsible for developing the school component for a policy-tool box, which was to be implemented by the intervention schools. The school level component was, however, reduced due to the reasons as described in Section 4.1.4.

## 5. Methodology

This section elaborates on the applied methods by presenting the three specific research designs including empirical data, analytical strategies and ethical considerations. Initially, I will elaborate on how the three studies are interrelated as a part of the overall research design. Hereafter, the research designs of paper I and paper III are presented as part of the qualitative methodology of the study followed by the research design of paper II as part of the quantitative methodology.

### 5.1 Overall Research Design

Both the quantitative and qualitative methods were applied as a part of the overall research design. This followed the different specific objectives of each paper, which required methods that provided information at different analytical scale levels both in breadth – information from multiple cases, but also deeper analysis of particular cases in their natural settings (Fredriksen, 2015, p. 207). The qualitative and quantitative methods were, furthermore, expected to provide complementary insights into the phenomena of children’s participation in relation to social capital in the school setting (Fredriksen, 2015, p. 201). Theoretically, all the three papers draw on the same overall theoretical framework on social capital, though with focus on different indicators and different methodological perspectives. This creates a bridge, despite the different perspectives on social capital, between the three studies that allows the different empirical findings to be integrated by using theoretical arguments (Frederiksen, 2013). Information gathered for the three papers were thus designed to both complement each other and inform each other – despite that data were collected almost in parallel following the We Act study as shown in Figure 4. Information gathered from paper I was used to help specifying the proposed mechanisms for Paper II on the organisational and interactional mechanisms (Figure 3). Paper I, moreover, informed Paper III that explored the mechanisms from the perspective of the HPS and IVAC methodology. Finally, Papers II and III were designed to complement each other by focusing on the same instrumental case, but from different analytical perspectives and levels. Paper II focused on the effect of We Act, whereas Paper III focused on the underlying mechanisms in relation to the selected indicators of social capital.

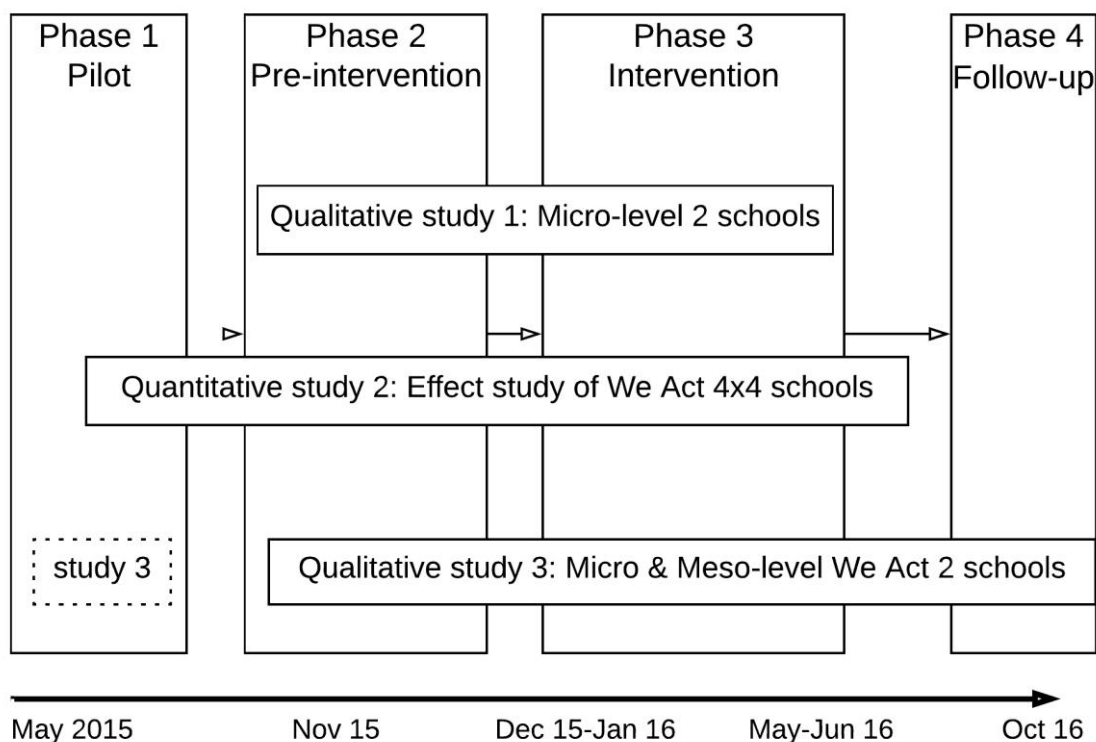


Figure 4: The overall research design with different sequential phases in the research process parallel to the development and implementation of the intervention.

## 5.2 Contextualising the Qualitative Research – The Two Case Schools

To get an in-depth knowledge concerning children’s perceived and negotiated participation in everyday school situations (Paper I) and which mechanisms within a participatory health educational process that influence social capital in the school setting (Paper III), in-depth qualitative studies were conducted at two Danish public schools as a part of the We Act study. Two of the four intervention schools with three participating classes at each school were selected as cases to allow for an in-depth exploration. These two case schools were purposefully selected to represent heterogenic socio-economic characteristics to obtain a variety of theoretical explanations (Miles & Huberman, 1994, pp. 28–29; Yin, 2014, pp. 57–62). The purpose was to discern the common patterns across different cases in line with a theory building approach (Paper I) (Miles & Huberman, 1994) and to allow replication of the We Act intervention across the two socio-economically different schools contexts (Paper III) (Yin, 2014,

p. 57). The two schools were selected based on information from interviews with the four school principals and the key official documents from the schools including annual reviews<sup>4</sup> of their performances (Stjernqvist et al., 2018 - Paper I).

### **5.2.1 Case school A**

School A, a small school (270 pupils), was established in 1939 and located in the country-side in a village in Zealand, which the school principal described as: ‘a land flowing with milk and honey with few problems, unlike some other school districts in the same municipality.’ The school was placed within a residential area, primarily with white upper middle class, in a municipality which the school principal described as ‘Silver Jubilee’ municipality, due to a decreasing trend of younger families moving to the municipality. Though this was not emphasised as a direct threat to the school, the small size of the school made it vulnerable to being shut down.

The majority of the school children belonged to socio-economically advantageous homes. Most school children were ethnic Danish with little ethnic diversity. The grade point average (GPA) in the mandatory 9th grade classes tests at the school was, in 2014/2015, 7.2 (measured at a scale ranging from 2-12). This was similar to the GPA in the municipality and 0.3 higher than that of the national average. The socio-economic reference<sup>5</sup> of the mandatory 9th grade classes tests used for assessing and comparing a school’s academic level was, in 2014/2015, 7.0. In comparison to the socio-economic references in the municipalities’ six other schools, it ranged between 6.6 and 8.2.

Physically, the school was divided into three main blocks/sections, each of which had various outdoor play areas located next to the buildings, including a soccer pitch and several small

---

<sup>4</sup> An overview report regarding the development of the school on the key factors including a cademic assessment in relation to socio-economic reference, the students’ well-being etc., which the schools are obligated to write on a yearly basis.

<sup>5</sup> The socio-economic framework is a tool that can be used by schools and municipalities when assessing their pupils’ results in comparison to other schools. The framework is based on the school’s pupil composition. The calculation considers individualistic characteristics, such as gender, ethnicity, the parents’ educational level and income. The assumption behind the tool is that the pupils’ academic levels are often associated with their individual socio-economic background (Skolestyrelsen, 2011).

green areas. 'Spiren', 'junior-gangen' and 'klyngen' separated the different grade levels into three groups: preschool class – 2nd grade, 3rd grade – 5th grade and 6th grade – 9th grade, respectively.

### **5.2.2 Case school B**

School B was built in 1938 and located in a suburb of Copenhagen and had about 700 pupils. This school was placed in a mixed area of social-housing and residential. The student composition of the school was, as described by the school principal: 'a solid mix of children who have – where families had few resources, financially and human social resources and then some children who come from fairly well-functioning privileged homes and that's around fifty/fifty.' With 32 nationalities represented, the school was more diverse with respect to its ethnical composition in comparison to School A. Both the new school principal (who had been employed for six months) and the vice school principal who had worked as a manager at the school for 12 years highlighted how the high percentage of pupils with different ethnic backgrounds and the diverse student composition made the school more multicultural.

The GPA for the 9th grade classes' mandatory tests was, in 2014/2015, 6.0 as compared to an average of 6.9 and 7.0 at the municipality and national level, respectively. The socio-economic reference of the school for the 9th grade classes in the mandatory tests was, in 2014/2015, 6.3. In comparison to the socio-economic reference of the municipalities' five other schools, these ranged between 6.2 and 6.9.

Physically, the school was divided into one main building (where the grade levels 3–5 were located), a smaller block attached (where the preschool class to 2nd grade were placed) and a separate block called 'The Island' housed the grade levels 6–9. The outdoor area was defined by two courtyards surrounded by buildings and a few green spaces, including the soccer pitch and the playground surrounded by dense vegetation. There was quite a bit of noise coming from a large main street nearby.

## **5.3 Qualitative Methodologies**

### **5.3.1 Paper I – Study design**

To get insight into how children perceive and negotiate their participation in everyday school situations and contribute to an understanding of the mechanisms for children's development of social capital in the school setting drawing on the concept of participation, an abductive research design was applied.

Focus group interviews were chosen as the primary research method as it has been found to produce data on the interaction between participants (Belzile & Öberg, 2012; Halkier, 2016), which seemed especially fruitful in relation to exploring the dynamic and relational nature of social capital in relation to children and in line with similar studies (Billett, 2011; Smyth, 2012). This method has also been suggested to offer support to group members and to replicate the small group setting that children are familiar with thus being less intrusive than an in-depth face-to-face interview with a child (Mauthner, 1997). Finally, focus group interviews reduce pressure on the individuals to respond to all the questions, which in relation to children seem especially important by helping redress the existing power imbalance between the child and an adult by the presence of more than one child (Green & Hogan, 2012). In total, ten focus group interviews were conducted (44 children) at the two case schools, lasting from 45 to 63 minutes with children who had participated in the We Act intervention. They were conducted in May and June in the year 2016 (Stjernqvist et al., 2018 – Paper I).

#### **The moderator guide**

The focus group moderator guide was divided into two general themes. The first was children's participation in everyday school situations in relation to what we as researchers would term 'social capital' inspired by Schaefer-McDaniel (2004) (Table 1). The second was children's participation in the We Act in relation to social capital (Paper III), which is not shown in Table 1. To operationalise the concept of participation and to probe and encourage discussion about different forms of participation in relation to social interaction, the guide incorporated four found photos (see pictures below), inspired by photo elicitation interview techniques (Epstein et al., 2006). The contents of the photos and the first theme of the moderator guide relating to



Paper I were piloted in the two focus groups prior to the ten focus groups of the study, using sorting and ranking activities. The pilot interviews showed that the children could connect to the images and told different stories from their everyday school lives representing different forms of child participation. Each focus group was organised with a moderator, who led the discussion, and a co-moderator, who mainly operated the tape recorder and technical equipment, while assisting the discussion and observing the group dynamics (Morgan et al., 2002).

Pictures used in Activity 2.



Picture 4

Picture 3

Picture 2

Picture 1

Table 1: Interview themes and activities in the study of children’s participation and social capital in the school setting.

Interview themes	Activities
1. Children’s participation in everyday school situations.	Open-ended questions about children’s participation and photo sorting activities.
2. Children’s participation and ‘sense of belonging’.	Open-ended questions about children’s participation and photos and a school map activity.
3. Children’s participation and ‘social network and trust and reciprocity.’	
3.1 Pupil-adult networks (linking social capital).	Open-ended questions about children’s participation related to trust and reciprocity in networks between pupils and adults at the school.
3.2 Peer networks (bonding and bridging social capital).	Open-ended questions about children’s participation related to trust and reciprocity in peer networks.

To emphasise the informality, redress existing power imbalances and promote the involvement of all the children, all the focus group activities were held at an after-school facility where the children went daily. Furthermore, we established some ground rules prior to each session to redress existing power imbalances (Morgan et al., 2002). The ground rules applied were: everyone gets a chance to speak; there are no right or wrong answers – you are the experts; you do not need to put up your fingers, but if possible speak one at a time. Each focus group was organised with an introduction round, which was followed by a ‘setting the scene’ activity where the children were encouraged to tell their names and a situation where they either enjoyed being in school or where they did not enjoy it (Kennedy et al., 2001). The focus group interviews then moved on to descriptive and evaluative questions and discussions following the three general themes on social capital in the moderator guide. A research team of four conducted the interviews from 28<sup>th</sup> February – 1<sup>st</sup> June 2016, of which I was a moderator in the nine interviews. Each interview was made into a transcript in the manner listed below (Bloor et al., 2001).

### **Group composition and participants**

Based on a general recommendation that homogeneity is best (Green & Hogan, 2012), we anticipated that less active pupils would feel less dominated in groups with similar children. Hence, the focus groups were composed according to their school class, mixed gender and ‘active’ vs. ‘less active’ children. Teachers were asked to select four to five children, both boys and girls, from the same class, on a voluntary basis, who they assessed as either ‘less active children’ or ‘more active children’ in educational activities. The groups ranged from 4–5 children, which have been found to be fruitful in stimulating discussion between participants in this particular age group (Heary, 2002, p. 51; Morgan et al., 2002, p. 8).

### **Data analysis**

The research process followed an abductive approach where collection and analysis of data was guided by theoretical studies and combined with theory as a source of inspiration for discovering new patterns (Alvesson & Sköldbberg, 2009). The theories described by Hart (1997), Simovska (2004) and the operationalisation of different types of social capital focusing on

bonding and bridging social capital practises as described in Section 2.7.2 were used. For analytical purposes, and similar to Baerenholdt and Aarsaether (2002), we made a distinction between *practices* and assets (the different types of social capital). Practices were moreover seen interchangeable with mechanisms. The analysis proceeded in a dynamic process of reading and re-reading each transcript after all the recordings were transcribed and included both a content and an interaction analysis (Haliker, 2016). Working progressively with each transcript using the techniques of coding, categorisation and conceptualisation, which took place in multiple rounds, the analysis proceeded by linking data to concepts (Coffey & Atkinson, 1996). Specifically, an open coding was conducted to get a 'child perspective' on processes of participation in the school setting. Next, a selective coding was conducted where the data were coded in line with the analytical framework focusing on Hart's (1997) ladder of participation and the categorisation of the types of social capital. The categorisation process, which focused on the mechanisms interlinking forms of participation and practises of social capital, was guided by both the open codes and the analytical framework. Recurring categories and concepts were discussed with the co-authors. To open up the group interaction and differentiate individual voices from opinions and experiences expressed by the group, we asked 12 analytical questions for each interview (Stevens, 1996). This included questions such as 'was a particular member or viewpoint silenced?' and 'what common experiences were expressed?' This was done separately for each transcript and then compared to the group data in the final stage.

### **5.3.2 Paper III – Study design**

Paper III applied a multiple case study design with the two case schools (Yin, 2014) with We Act as an instrumental case on a participatory health educational process (Stake, 2006), and it was based on a theory-driven, abductive research strategy. The two selected schools and three participating classes at each school specified in sections 5.2.1 and 5.2.2 served as cases. This allowed a literal replication of the HPS approach and IVAC methodology across two socio-economic different school contexts to develop a richer model of the mechanisms within a participatory health educational process that influence the indicators of social capital and collective actions (Yin, 2014). Each school was investigated as a single embedded case school study, where teachers, children and school principals, respectively, served as a unit of analysis.

Collection and analysis of data was guided by theoretical studies, while also looking for new themes in line with the abductive reasoning (Alvesson & Sköldbberg, 2009, p. 4). A time series design was further employed at each of the case schools (Yin, 2014, p. 151), allowing insights into the relation between the aspects of the HPS approach and IVAC methodology and the indicators of social capital. To strengthen validity and verify the significance of emergent themes, several data collection methods were used, which were triangulated at the different units of analysis (Yin, 2014) (Table 2). At the child level, data from the focus group interviews were combined with data from the field notes, whereas at the class level, the teacher interviews were combined with the focus group and the field notes. At the school level, the interviews with the school management were combined with the teacher interviews and focus group interviews.

Table 2: Empirical data from the multiple case study exploring mechanisms within the IVAC methodology that influence the indicators of social capital and collective actions.

		Dec 2015- May 2016	May 2016	June 2016	October 2016	SUM
Focus groups interviews with children			12			12
Field visits*						
School level	Introduction meeting	2				
	Competence day	2				
Classroom level	Vision presentation	3				
	Meeting the children	4				
	Investigation (MOVE & IEAT)	8				
	Vision workshop	5				
	Action & Change		3			27
Interviews with school principals		3		2	2	7
Interviews with teachers				5		5

\* Days where the research team has visited the schools

### Focus groups interview with children

Focus groups interviews were conducted at the end of the project with a total of 52 children on a voluntary basis. Paper III drew on the second theme of the moderator guide (Section 5.3.1). To probe children’s discussion and dialogue on their experiences of their participation with the

IVAC methodology in relation to the indicators of social capital, the moderator guide used a combination of descriptive and evaluative questions. The moderator guide further used different activities including ranking each component according to smileys (green, yellow and red) and small vignettes (Appendix A). The interviews were directed by a moderator and a co-moderator. For more details on the context of the focus group interviews and group composition, see Section 5.3.1.

### **Interviews with teachers and school principals**

Eight participatory teachers were invited for an individual interview with a total of five teachers responding positively to the invitation. The interviews were structured around three overall themes: 1) the implementation of the We Act, 2) the principals behind We Act and 3) pupil outcome (including indicators of social capital) (Appendix B). The interviews were conducted with an interviewer and co-interviewer who asked follow-up questions, of which I was a co-interviewer in one of the interviews. To get insights into how IVAC process had occurred at the school level, interviews with the school principals were also conducted. The school principal interviews were conducted in three rounds following the implementation process using semi-structured interview-guides. The first interview guide included five themes: the school principal's background, the socio-economic composition of the school, the social culture of the school, health promotion at the school and the recruitment process (Appendix C). The second interview guide was centred on three themes: the process of the We Act, the principals behind the We Act and the outcome of the We Act (Appendix D). The follow-up interview guide included four themes: the action and change phase and potential barriers, internal networks of the school, external networks of the school and pupil participation (Appendix E). I conducted six of the seven interviews. All the interviews were audio-recorded and transcribed.

### **Field notes**

Participatory observation was conducted to gain knowledge into the participants' view of We Act and the way of working with We Act within their everyday context (Gulløv & Højlund, 2003). The research group visited the two case schools in groups of one to four researchers and participated in different phases – primarily following one class at school A and two classes at school B, which the research group had agreed with teachers to stick to. The initial plan to

conduct participant observation in only one class at school B was amended to include an extra class, as the teacher whom we had originally planned to follow during the investigation phase broke her arm resulting in a substitute teacher taking over. The research team conducted participatory observation for 27 days, of which I was a participating observer for 23 days. Each visit lasted between 1–5 hours, depending on the activities being conducted. This, furthermore, allowed time for taking field notes as soon as possible after each field visit, to produce more fresher and more detailed descriptions of the events (Emerson et al., 2011). This was divided between 12 days at school B and 11 days at school A, respectively. On each visit, I was partly engaging in activities related to We Act and partly observing the activities, the participants and the physical aspects of the situation, while writing/jotting down notes (Gulløv & Højlund, 2003; Spradley, 1980). At the class level, I was mostly present during lessons where the participants were working with different We Act activities and outside during playtime talking and interacting with the children. At the school level, I participated in different activities related to We Act. Throughout the visits, I was changing between being either an ‘active participant’, a ‘moderate participant’ or ‘passive participant’ (Spradley, 1980), while at school level, I was also, at some points, a facilitator ‘for’ the We Act intervention (Svensson, 2002, p. 11). In the beginning, I was focusing more on being an active participant in order to get to know and build confidence with the children and teachers, though, in some situations, I became more of a We Act facilitator.

### **Data analysis procedures**

All the interviews were audio-recorded and afterwards transcribed. It was the overall focus of the analysis to identify relationships between mechanism integrated into the HPS approach and IVAC methodology and the indicators of social capital. The indicators of social capital were related to the norms of reciprocity (Putnam, 2000) and *practices* of bonding, bridging and linking social capital (Allan & Catts, 2014).

Similar to paper I, we made an analytical distinction between *practices* and assets (different types of social capital) following Baerenholdt and Aarsaether (2002) and viewed practices interchangeable with mechanisms. Mechanisms were operationalised into interactional (defined as interactional process of HPS and IVAC, e.g., ‘a course of action’ and methods of

working among members of formal and informal networks) and organisational (defined as structural aspects of HPS and IVAC, e.g., policies, arrangements, programmes, composition of social network within the social context) inspired by Shoji et al. (2014) and Rowe & Stewart, (2009).

Collective actions were also included as an outcome related to social capital, but not a direct social capital indicator (Putnam, 1996). The indicators of norms of reciprocity were operationalised as norms of social support (e.g., engaging in helping behaviour, acknowledging different health behaviours, etc.). Indicators of bonding, bridging and linking social capital were operationalised in accordance with the qualitative operationalisation as described in Section 2.6.2. Collective actions were operationalised in line with the concept of child agency as actions taken among the individuals based on the children's visions.

Each case school was analysed separately in a chronological order following the We Act implementation. In the beginning, a first-level coding was conducted after the data had been imported into the qualitative NVIVO software program. An initially developed pre-existing coding list (Miles & Huberman, 1994) was used to guide the initial coding based on prior theory and research. These included the We Act component, the IVAC methodology, indicators of social capital and the potential mechanisms (Figure 3). Following the abductive approach, the initial coding, moreover, identified new themes and looked into rival theoretical explanations affecting the indicators of social capital and collective actions at different analytical levels (Yin, 2014, p. 37). Both the descriptive and interpretative codes (Miles & Huberman, 1994, p. 57) were used in initial coding. The descriptive codes related to selections of data, which belonged to the different components of the HPS and IVAC components, as well as more inductive *open* codes. The interpretative codes related to the different mechanisms of social capital (divided into organisational and interactional at class and school level), and indicators of social capital as well as open codes.

Each data source was analysed in several rounds to allow the categories and potential links between the different codes to be highlighted in the material. This was facilitated through processes of coding patterns and coding matrixes (Miles & Huberman, 1994, p. 69); for example, by matching the indicators of social capital with the descriptive codes of IVAC methodology and the HPS approach. Next, data for each case school was triangulated into a

case report that allowed patterns between the indicators of social capital and collective actions and specific events in their specific context to be highlighted. I conducted these initial analytical steps. Emergent themes were hereafter discussed among the co-authors. Finally, the cross-case comparison identified the common issues in each case and interconnected the themes among the case schools.

**5.4 Quantitative Methodologies**

**5.4.1 Paper II – Study design**

To evaluate the effect of the We Act on children’s perceived cognitive social capital, the research design, applied for Paper II, was a quasi-experimental controlled pre- and post-intervention study with a three-level cluster design (Figure 5). The sample size was calculated in relation to the outcome dietary habits (fruits and vegetables) and physical activity, suggesting that a total of four intervention and four control schools with 75 children in each group was required (Sabinsky et al., in press).

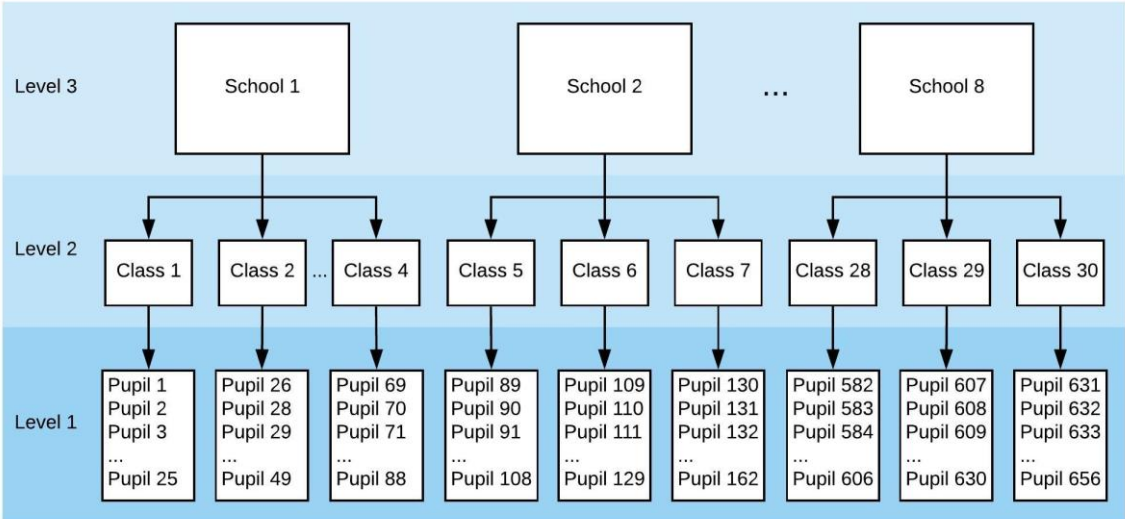


Figure 5: The quasi-experimental controlled pre- and post-three level cluster design used for the analysis, adapted from Field (2014, p. 817).



## **Recruitment of schools**

Schools located in the municipalities of Copenhagen and the Region Zealand in Denmark were recruited for the We Act study by convenience sampling. School recruitment material was sent to the municipality and/or the schools describing the aim of the intervention, time required for participation and what the schools could gain from participating in the project. In total, recruitment material was sent to 27 municipalities and 210 schools. Fifteen municipalities disseminated the material directly to the schools, three municipalities did not want to disturb their schools with new projects and in nine municipalities, the research team contacted the schools directly based on a request from the municipalities (Sabinsky et al., in press). Altogether, four schools from four different municipalities signed up for the project. The four intervention schools were hereafter matched with four control schools. The control schools were selected among schools in the same municipality to make the control schools as comparable with the intervention schools as possible based on the rationale that schools within the same municipality are often exposed to the same political views and policies. The control schools were additionally matched on the size of the school and socioeconomic background of the families (assessed by a central person from within the municipality responsible for the school area) (Stjernqvist et al., in press - Paper II). A flow chart shows the different steps in the recruitment process (Figure 7 in Section 6.2.1). Baseline data were collected using an online questionnaire between 26<sup>th</sup> October and 2<sup>nd</sup> December 2015. Follow-up data was collected six months later in May and June 2016 (Stjernqvist et al., in press – Paper II).

## **Outcome measure – Cognitive social capital**

Outcome measurements were carried out using the WHO internationally standardised school-based the HBSC study and nine questions from the HBSC Danish contribution, in 2014 (Personal Communication, Rasmussen 7 May/2015), reflecting child cognitive social capital in the school setting. These questions consisted of three latent variables representing the following three indices: horizontal social capital (three questions), vertical social capital (three questions) and sense of belonging in the school (three questions) (Table 3). The questions were derived reflecting both the theoretical construct and previous empirical operationalisation of child-perceived cognitive social capital in the school setting for children aged between 10 and 12.

The horizontal social capital index built on the work of De Clercq et al. (2014). The vertical social capital index built on a teacher support scale derived from the HBSC international study protocol. Consistency of both the scales was found through exploratory factor analysis (De Clercq et al., 2014; Personal Communication, Rasmussen 29 May/2018). Finally, a third index of perceived cognitive social capital was constructed inspired by Schaefer-McDaniel's (2004) emphasis on including pupils' sense of belonging within the school environment. The coefficient of reliability – Cronbach Alpha values – were calculated for each index (Table 3). The three indices were constructed as ordinal indices following the study conducted by Nielsen et al. (2015). The rationale behind this was the five-point Likert response categories of the questions that follows an ordinal scale. This gives a rank order by which data can be sorted, but without information about the intervals between each category (Bauer & Sterba, 2011). One point was given if the responder answered 'agree' or 'strongly agree' and zero points for negative or neutral responses. The three indices, thus, gave each responder 0–3 points. Hereafter, the three indices were categorised into 'high' = 3, 'moderate' = 2 and 'low' = 1 or 0 (Stjernqvist et al., in press – Paper II).

Table 3: Social capital items included in the analysis of the We Act study.

Social capital items	Questions <sup>1</sup>	Cronbach Alpha
<i>Cognitive</i>		
Horizontal social capital	The students in my class enjoy being together* The students in my class are kind and helpful* Other students accept me as I am*	0.716
Vertical social capital	I feel that my teachers accept me as I am* I feel my teachers are interested in me as a person* I feel a lot of trust in my teachers*	0.808
Sense of belonging in the school	I feel I belong at this school* Our school is a nice place to be* I feel safe at this school**	0.846

\*[strongly agree, agree, neither agree nor disagree, disagree, strongly disagree], \*\*[always, most of the times, sometimes, rarely, never]

1) All questions and response categories derive from HBSC International protocols (Personal communication, Rasmussen, 28 May/2018) and has been translated into Danish following the standardised translation guidelines (Roberts et al., 2009).

## Measures of covariates and the intervention

At the individual level, we adjusted for gender, age, migration status and socioeconomic status (SES) following the previous studies (Harpham et al., 2002; Nielsen & Koushede et al., 2015; Vyncke et al., 2013). Migration status was based on a child's place of birth and their mother and father's place of birth. This was categorised into: native Danish (children born in Denmark and one or both parents born in Denmark) and non-native Danish (Nielsen, Meilstrup, et al., 2015). The child's socioeconomic position was measured by the parents' occupational social class (OSC) scheme (Currie et al., 1997) and coded by the research team in accordance with the HBSC coding recommendations. Based on the highest ranking parent, the children's answers were coded into a family social group ranging from high (I-II), medium (III-IV), low (V+ economically inactive) and unclassifiable. At the class level, we adjusted for grade, which was constructed as a categorical variable. To account for the effect of the intervention, an 'intervention' variable was constructed as a categorical variable with one level being 'control' and the other level being 'intervention'.

## Statistical analysis

To estimate the effect of the intervention on the selected ordinal outcomes, multilevel ordinal logistic regression analysis assuming proportional odds<sup>6</sup> was used to account for the hierarchical nature of the data<sup>7</sup> and the ordinal nature of the outcomes (Hedeker, 2015). Baseline data were incorporated into the analysis as a covariate to adjust for the potential differences at baseline (Pronyk, 2008). Due to the ordinal nature of the scales where the size of the intervals between 'high', 'moderate' and low' were unknown, the ordinal models were considered the appropriate models for statistical analyses (Ali et al., 2016). Ordinal models, furthermore, consider a potential ceiling and floor effects of the dependent variable, which in our case were evident (Appendix F, Table S1 – S6). The rationale for using multi-level analysis was that the observations were not independent as assumed in classical models such as ANOVA, because they are nested in clusters (Figure 5) (Ali et al., 2016; Field, 2014). When

---

<sup>6</sup> This means that the parameter estimates are the same whatever the definition of 'higher trust' is, i.e., high vs. moderate+low or high + moderate vs. low (Woodward, 1999, p. 503).

<sup>7</sup> Where children (level 1) were nested within classes (level 2) that were nested within schools (level 3) (Hox, 2010).

conducting the analysis, it was, however, not possible to estimate the variance component associated with the variation between schools (level 3) due to a non-positive definite G matrix. Therefore, to get a proper error structure, classes were nested with the variable intervention in the statistical models. A series of models estimating children's probability (odds ratio (OR)) of reporting higher horizontal social capital, higher vertical social capital and higher sense of belonging in the school were then fitted following the bottom-up approach in line with Smiley et al. (2015). Hence, a series of models were built up step-by-step testing for both random effects and fixed effects (covariates mentioned in Section 2.6), including baseline values using a 5% level of significance and two-sided tests. Non-significant covariates (except for the effect of the intervention) were generally removed from the models. Testing was also performed for interactions between all significant covariates and the intervention. All models were fitted in SAS using the PROC GLIMMIX procedure and Maximum Likelihood (ML) method, which was found suitable for conducting multilevel ordinal logistic regression analysis with a three-category outcome (Ali et al., 2016). Akaike's Information Criterion (AIC) and the more conservative Bayesian Information Criterion (BIC) were used to compare the model fit and find the best fitting model for the data. We calculated the amount of total variation at classes using the variance partition coefficient (VPC) and the latent variable method, where  $\pi^2/3$  is the variance between individuals (Snijders & Bosker, 1999).

## **5.5 Ethical Consideration**

The main We Act study including Paper II was approved by the Danish Data Protection Agency on 18 April 2015, ref: 2015-41-4201. The study adheres to the Danish ethical standards and was reported to the Capital Region of Denmark Protocol no.: H-7-2015-FSP1. They concluded that formal ethics approval was not required because no human biological material was collected (Sabinsky et al., in press). The qualitative data used for papers II and III were approved by the Danish Data Protection Agency on 12 August 2015, ref: 2015-41-4080.

When recruiting schools, written information targeting the school leaders and teachers was forwarded to the schools, which explicated the implication of participation. School principals, teachers and parents at the participating schools were hereafter informed about the purpose

of the study, that participation was voluntary, that their information would be used for research purpose only and treated with confidentiality and of the possibility to withdrawal at any stage of the research. Researchers conducting research with children moreover should address some specific issues, which were considered throughout the process (Alderson, 1995 in Kampmann, 2000). Prior to the quantitative data (where a written letter was sent to the parents informing them about the research purpose), children were informed about the research purpose, that it was voluntary to participate, that their answers would be treated with confidentiality and only used for research purposes and that they could withdraw at any stage.

To lay emphasis on the privacy of each child's response instructions were also provided for the teachers to stay at the desk, while two members of the research team were present if the children needed any help. To disturb the children as little as possible during the school hours, the focus group interviews were only conducted one time after the We Act was implemented. When informing children in the focus groups about the research objective, the term social capital was not applied as this is a theoretical construct, which to children is an unfamiliar term. Instead the researchers said that they were curious to hear about their experiences and opinions with regards to their participation in the school in general and in the We Act. The children were further told that what they talked about during the focus groups interview should not be told to anyone else and that it would only be used for research purposes. To assure an equal account of different children's experiences and voices to step forward, the children were matched into groups of 'active' children and groups of 'less-active' children, based on the teachers' suggestions. All the names from the interview excerpts have been changed for maintaining the anonymity of the participating children.

## 6. Results

### 6.1 Paper I: Children's Experiences of Their Participation in Everyday School

#### Situations in Relation to Social Capital

The analysis highlights three forms of child participation in everyday school situations characterised by different opportunities as well as the constraints to participation in the school setting as described by the children. These interrelate with nine practices or mechanisms and different types of social capital, with a focus on bonding and bridging social capital and their effects as shown in Figure 6. Where 'Child-directed participation' and 'child/adult-directed participation' relate to *genuine* participation, 'adult-directed participation' relate to *token* participation. The characteristics of the three forms of participation and their interlinked practices are summarised in the below paragraph with sub-headings referring to the elements of Figure 6.

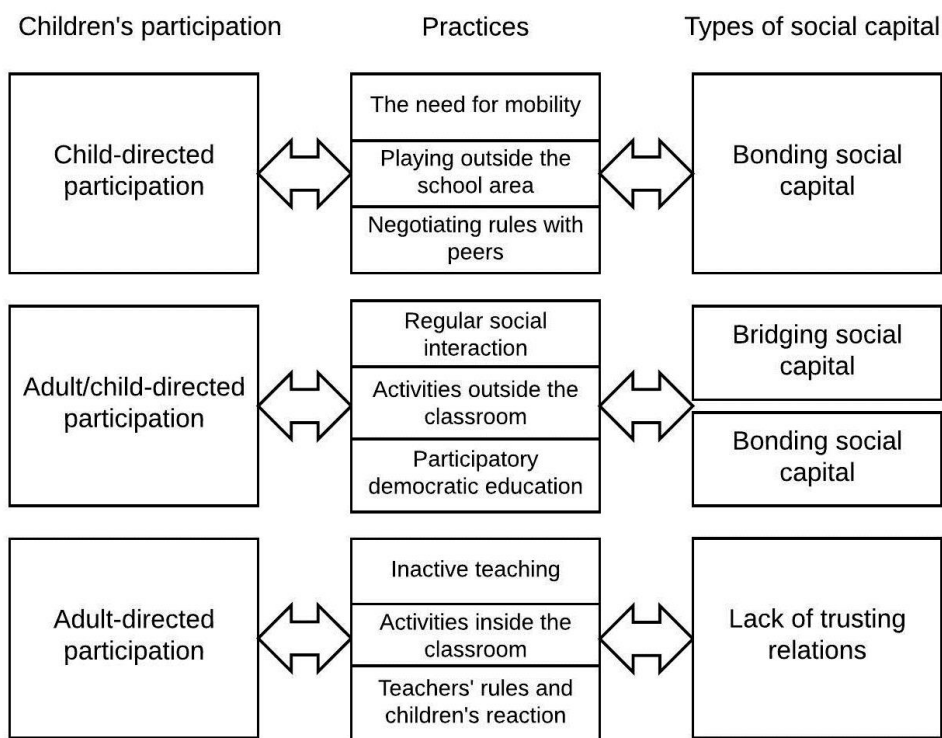


Figure 6: Relationships between children's participation and the mechanisms for generating social capital in everyday school situations in the school setting.

### 6.1.1 Child-directed participation

When discussing various forms of situations where the children experienced having autonomy to influence decision making at school, the children distinguished between participation where it was entirely up to them to decide what to do, whom to play with, where to be etc., and participation where they were negotiating more with adults. The former mostly occurred during play-time, where the interference from adults was relatively low. Most of the children described how they enjoyed these activities because they could be with their friends, be outside and active and be more autonomous and spontaneous, as illustrated in the interview excerpt below.

MODERATOR: Could you give an example why that's good? [ELINA: Because... because there you can just be with [uh] your friends and then you can just do what you like and so on.] [MODERATOR: Yes] [ELINA: You can be yourself in a different way.]

MODERATOR: In a different way [ALI: Yes], can you say a bit more about that?  
ALI: To be yourself in a different way. [MINA: uh] [THOMAS: You're free.] [MINA: Yes, you're free.] [ALI: free]

MINA: For instance, when I get out, I like to yell out loud when it's rainy. [laughter]  
[MODERATOR: laughs] [ALI: You can't do that when you're indoors.] [THOMAS: You're just free to do what you want. No one decides what you're not allowed to do.]

(5th grade, School B)

Through practices of *the need for mobility, playing outside the school area and negotiating rules with peers*, integrated into child directed participation, this allowed opportunities for the children to interact with peers and develop friendships. This was facilitated through social activities of playing games, 'hanging out' or simply talking together and was experienced by the children as being supportive. Across both schools, the children revealed how they would mostly hang out with friends from their own class with a tendency of developing networks with other pupils of the same gender or same social identity in line with bonding social capital. The interaction analysis, however, also showed how a few children at both schools were very quiet, when discussing their favourite place or whom they would play with, indicating that not all children felt the same way about feeling free and being able to interact with classmates or other pupils when having autonomy to choose. With little interference from adults practices

integrated into child directed participation, thus, also seemed to hold a rather exclusive character, in line with bonding social capital as highlighted in the below interview excerpt.

JOACHIM: [yea] Sometimes it can be that (ehm) people are allowed to participate in games, but then there comes a big conflict because, it is not really that person you most want to be with and then there are others that you want to be with and then the person can't be in it anyways and then there is a really big conflict. Something like that I think.

(5th grade, School B)

### 6.1.2 Child/adult-directed participation

In addition to the autonomous form of participation, where it was primarily children who were interacting, initiating activities and deciding for themselves, the children also highlighted a form of more autonomous participation where they were interacting and negotiating with teachers or other adults at the school. This form of participation mostly occurred as part of regular school activities with some specific teachers or as part of more social activities and social events at the school. Through practices of *regular social interaction*, *activities outside the classroom*, and *participatory democratic education*, this form of participation was characterised by involving practices of social interaction among the adults and children and physical movement. This form of participation mostly occurred as part of social activities, social events at the school or regular educational activities, such as home economics. This allowed opportunities for other or new social interactions across classes or within the class among the boys and girls, which was highly appreciated by the children as exemplified in the below interview except:

MATHIAS: I am just looking forward to it [overnight event for the class] because you never know what happens.

MODERATOR: No.

MATHIAS: You might get some new friends or ... Who counts as a friend.

MODERATOR: Okay, because you can spend an evening hanging out? [MATHIAS: and maybe that is funny ... for the boys ... because then they can tease the girls or something. [ALBERTE: Like they ALWAYS do - laughing] [MATHIAS: Laughing]



MODERATOR: What do the teachers decide then? The teachers also sleep here (ed. in the school) don't they?

ALBERTE & JONAS: Yes.

ALBERTE: Yes they decide when we should go to bed and things like that and it is also them who buys the food, but we are maybe part of planning what we should have [MODERATOR: okay]. It should be too much of a hassle [MODERATOR: No]

(5th grade, School A)

Children at both the schools, moreover, highlighted educational practices where the teacher purposefully aimed at getting all children involved in decision-making processes. For example, through practices of mixing the children across classes, which allowed opportunities to generate networks of bonding social capital and bridging social capital and broader cross-class activities, through new interactions, which was appreciated by many children. Such practices furthermore, allowed more 'quite' children or children, who were faced with various difficulties, an opportunity to be more included. For example, one group told about a reward system where individual children could earn stars that could be used for the benefit of the whole class.

### **6.1.3 Adult-directed participation**

The children further described everyday school situations where they did not experience any form of autonomy with little or no form of negotiation with teachers. This mostly occurred as a part of educational activities with little or no social interaction. Through practises of *inactive learning, activities inside the classroom* and with *teachers' rules*, such as text-book learning or when they had a substitute teacher and where they were told to sit down for a long time, these situations sometimes resulted in some children reacting by start to move around. When elaborating, children described how these reactions partly depended on whether they trusted and respected their teachers and explained how they trusted and respected teachers whom they had known for a long time. With many teachers coming in and out, it was, therefore, challenging for the development of trusting relationships, which could also affect the individual child's experience of being heard. With little social interaction, this form of participation, therefore, did not appear to promote the development of bonding and bridging social capital

and tended to involve a lack of trust between the teachers and children, which sometimes could create disruption and individual experiences of not being heard.

## **6.2 Paper II: The Effect of We Act on Children's Perceived Cognitive Social Capital**

### **6.2.1 Intervention participants and baseline characteristics**

At baseline, four intervention schools with 289 children (12 classes) were eligible for the study as compared to the four control schools with 353 children (16 classes). Two classes and a total of 14 children were excluded from the intervention group, as these were special classes and, therefore, not a part of the target group for the educational material and intervention (Figure 7). The response rates at follow-up were 88.6% and 82.7%, for the intervention group and control group, respectively.

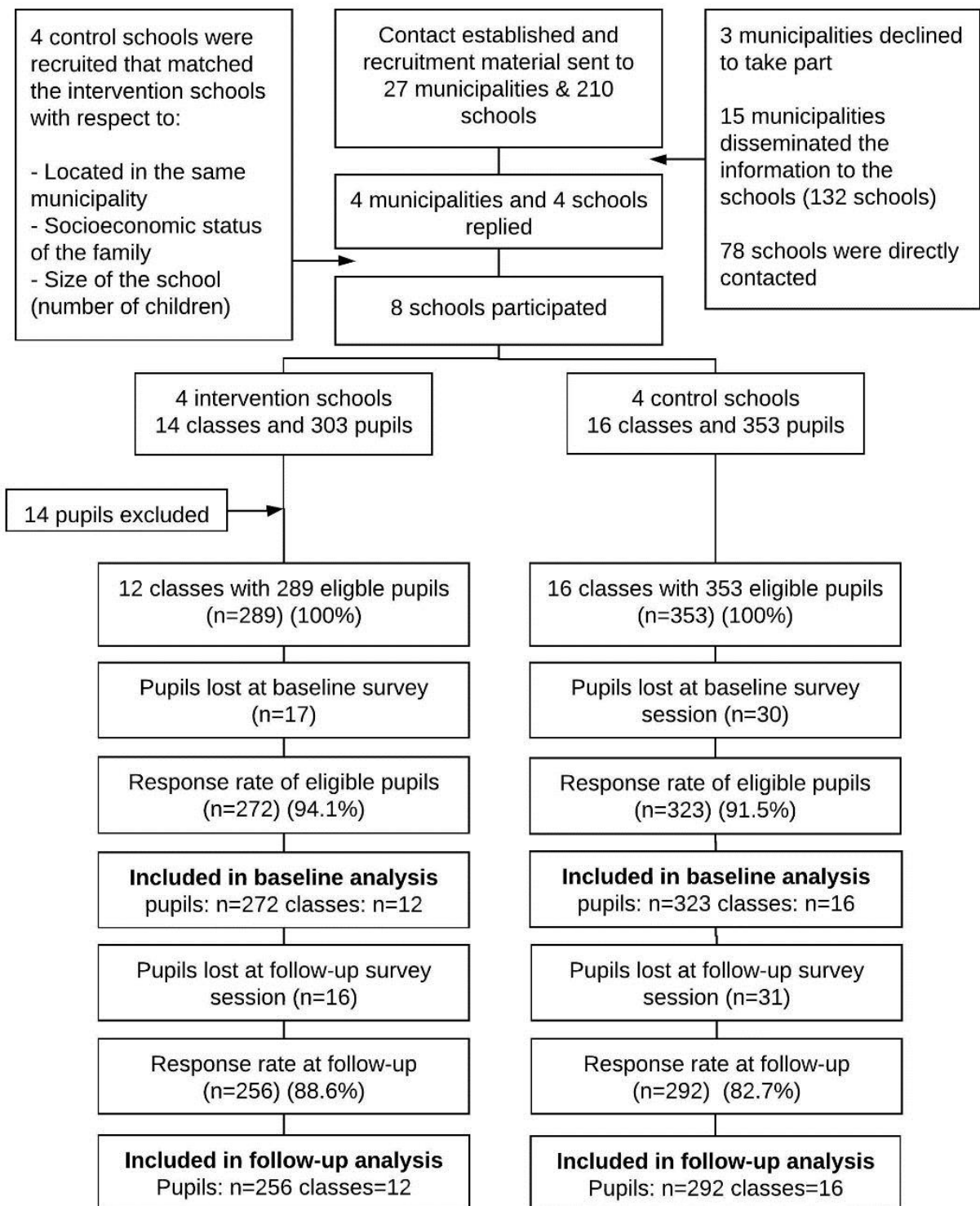


Figure 7: Flow diagram of recruitment and participants in the We Act in Eastern Zealand, Denmark.

The drop-out analysis showed that children (from both the intervention and control groups) who were lost to follow-up (absent from school, ill or who did not want to participate) were more likely to report low and moderate linking social capital as compared to the group who answered both the baseline and follow-up (Table 4). This was primarily due to the differences in the two groups at the intervention schools, as illustrated in the percentage distribution (Table 4.1). Baseline characteristics of the children by intervention and control groups are shown in Table 5. This shows the general consistency between the two groups with statistically no significant differences between the two groups at baseline on the selected individualistic characteristics and outcome measures, except that children from the control group were more likely to be 6<sup>th</sup> grade pupils and older as compared to the children from the intervention group.

Table 4: Dropout by groups of baseline (only) respondents as compared to baseline and follow-up respondents.

Characteristics	Group 1: Baseline (only)	Group 2: Baseline and follow-up	p-value <sup>a</sup>
Class (5th/6th) (% 5th grade)	31/16 (66%) n=47	345/203 (63%) n=548	0.68
Gender (boys/girls) (% girls)	25/22 (53%) n=47	260/288 (53%) n=548	0.45
Migration status (Native Dane/Migrant Dane) (%Native Dane)	37/10 (79%) n=47	468/80 (85%) n=548	0.22
Socioeconomic status (high, middle, low, unclassifiable) (% high)	14/18/10/5 (30%) n=47	192/205/78/73 (35%) n=548	0.21
Baseline horizontal social capital (low, moderate, high) (% high)	7/14/26 (55%) n=47	93/130/325 (59%) n=548	0.64
Baseline vertical social capital (low, moderate, high) (% high)	12/6/29 (62%) n=47	70/87/391 (71%) n=548	0.05*
Baseline sense of belonging (low, moderate, high) (% high)	7/10/30 (64%) n=47	119/71/357 (65%) n=547	0.21

<sup>a</sup>based on chi-square test, \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001

Table 4.1: Dropout by groups of baseline (only) respondents as compared to baseline and follow-up respondents by the intervention and control groups.

	Characteristics	Group 1: Baseline (only)	Group 2: Baseline and follow-up
<b>Intervention</b>	Class (5th/6th) (% 5th grade)	13/3 (81%) n=16	177/79 (69%) n=256
	Gender (boys/girls) (% girls)	7/9 (56%) n=16	121/135 (52%) n=256
	Migration status (Native Dane/Migrant Dane) (%Native Dane)	13/3 (81%) n=16	215/41 (84%) n=256
	Socioeconomic status (high, middle, low, unclassifiable) (% high)	5/7/2/2 (31%) n=16	89/97/35/35 (35%) n=256
	Baseline horizontal social capital (low, moderate, high) (% high)	4/5/7 (44%) n=16	41/54/161 (63%) n=256
	Baseline vertical social capital (low, moderate, high) (% high)	6/3/7 (44%) n=16	29/42/185 (72%) n=256
	Baseline sense of belonging (low, moderate, high) (% high)	2/5/9 (56%) n=16	60/34/162 (63%) n=256
<b>Control</b>	Class (5th/6th) (% 5th grade)	18/13 (58%) n=31	168/124 (58%) n=292
	Gender (boys/girls) (% girls)	18/13 (42%) n=31	139/153 (52%) n=292
	Migration status (Native Dane/Migrant Dane) (%Native Dane)	24/7 (77%) n=31	253/39 (87%) n=292
	Socioeconomic status (high, middle, low, unclassifiable) (% high)	9/11/8/3 (29%) n=31	103/108/43/38 (35%) n=292
	Baseline horizontal social capital (low, moderate, high) (% high)	3/9/19 (61%) n=31	52/76/164 (56%) n=292
	Baseline vertical social capital (low, moderate, high) (% high)	6/3/22 (71%) n=31	41/45/206 (71%) n=292
	Baseline sense of belonging (low, moderate, high) (% high)	5/5/21 (68%) n=31	59/37/195 (67%) n=291

Table 5: Baseline individualistic characteristics of children by intervention and control groups.

	Intervention n=272	Control n=323	p-value
Age, years [mean (SD)]	11,6 (0,68)	11,8 (0,66)	0.11 <sup>b</sup>
Class level			0.002 <sup>a***</sup>
5th grade	190 (70)	187 (58)	
6th grade	82 (30)	136 (42)	
Gender			0.71 <sup>a</sup>
Boys	129 (47)	155 (48)	
Girls	143 (53)	168 (52)	
Migration status			0.51 <sup>a</sup>
Native Danish	227 (83)	279 (86)	
Non-native Danish	45 (17)	44 (14)	
Family socialgroup			0.89 <sup>a</sup>
SES high	94 (34)	113 (35)	
SES medium	104 (38)	120 (37)	
SES low	37 (14)	51 (16)	
Unclassifiable	37 (14)	39 (12)	

<sup>a</sup> based on qui-square tests and a significant level of 0.05

<sup>b</sup> based on independent t-test and a significant level of 0.05

\*p<0.05; \*\*p<0.01; \*\*\*p<0.001

### 6.2.2 Effect of We Act on horizontal social capital

No significant difference between the intervention and control groups for horizontal social capital was observed at the six-month follow-up. This is also indicated by the development in the percentage distribution between the two groups (Table 6). There was no effect of interaction between the intervention and the significant level 1 and level 2 covariates. Table 6.1 shows that 11.3% of individual variation was attributed to the variation at the class level. It was not possible to calculate the variance component at the highest level (school level). At the six-month follow-up, boys (both from control and intervention groups) were almost twice more likely to report higher horizontal social capital as compared to the girls (boys OR = 1.77 (1.22–2.58)). Children from 6<sup>th</sup> grade (from both groups) were, moreover, less likely to report higher horizontal social capital at the six-month follow-up as compared to children from 5<sup>th</sup> grade (6<sup>th</sup> grade OR = 0.51 (0.29–0.89)) (data not shown). Children (from both groups) who responded ‘moderate’ or ‘high’ horizontal capital at baseline were, furthermore, significantly more likely to report higher cognitive social capital at follow-up as compared to the children who responded low horizontal social capital at baseline (high social capital OR 9.91 (6.01–16.37) and moderate social capital OR 3.76 (2.18–6.48) (data not shown)).

Table 6. Effect of the We Act on horizontal social capital at the six-month follow-up.

	Horizontal social capital (%)				Effect (Intervention vs. Control) <sup>a</sup>	
	Baseline		Follow-up		OR (95% CI)	p-value
Overall n = 548	Intervention	Control	Intervention	Control		
Intervention					0.82 (0.47 - 1.46)	0.492
Horizontal social capital						
High	63	56	61	62		
Moderate	21	26	16	17		
Low	16	18	23	21		

OR = odds ratio

\*p≤0.05; \*\*p≤0.01; \*\*\*p≤0.001

<sup>a</sup>) At the individual level, the model was adjusted for gender, age, migration status, baseline values for horizontal social capital and SES. At the class level, the model was adjusted for grade, while at the school level the model was adjusted for the intervention. Gender, grade and the baseline values for horizontal social capital appeared as significant covariates in the final model.

Table 6.1: Variance partition coefficient for the empty model on horizontal social capital

VCP	Covariance parameter estimates class level <sup>b</sup>	standard error
0.113265078	0.4202	0.1762
11.3%		

<sup>b</sup> For the empty model

### **6.2.3 Effect of the We Act intervention on ‘vertical social capital’**

No significant difference on vertical social capital was found between the intervention and control groups at the six months follow-up. The percentage distribution, however, indicates a relatively small difference in a negative direction for the intervention group. Additionally, no significant interaction effects were found between the intervention and the significant level 1 and level 2 covariates (Table 7). Table 7.1 shows that 11.7% of individual variation was attributed to classes. Children (from both the groups) reporting ‘moderate’ or ‘higher’ vertical social capital at baseline were, moreover, more likely to report higher vertical social capital at the follow-up (high vertical social capital OR = 15.35 (8.58–27.49) and moderate vertical social capital OR = 3.33 (1.76–6.29)) as compared to the respondents who reported ‘low’ vertical social capital at the baseline (data not shown).

### **6.2.4 Effect of the We Act on ‘sense of belonging in the school’**

A significant difference for sense of belonging in the school was found between the intervention and control groups at the six-month follow-up (Table 8). Contrary to the hypothesis, the analysis showed that children from the intervention group were significantly less likely of reporting a higher sense of belonging in the school at the follow-up as compared to the children from the control group (intervention OR = 0.54 (0.37–0.79)). This is also illustrated in the percentage distribution. Table 8.1 shows that 9% of the individual variation was attributed to the class level. Additionally, the analysis showed that children (from both the groups) from 6<sup>th</sup> grade were significantly less likely of reporting higher sense of belonging in the school as compared to the children from 5<sup>th</sup> grade (6<sup>th</sup> grade OR = 0.53 (0.30–0.92)) (statistics not shown). Children (from both the groups), who reported ‘high’ sense of belonging or ‘moderate’ sense of belonging at baseline, were significantly more likely to report higher sense of belonging at the six-month follow-up as compared to the children who reported ‘low’ sense of belonging at baseline (high sense of belonging OR = 12.83 (8.09–20.34) or moderate sense of belonging OR = 2.55 (1.44–4.50)) (data not shown).



Table 7. Effect of the We Act on vertical social capital at the six-month follow-up.

Vertical social capital (%)					Effect (Intervention vs. Control) <sup>a</sup>	
Overall n = 548	Baseline		Follow-up		OR (95% CI)	p-value
	Intervention	Control	Intervention	Control		
Intervention					0.67 (0.37-1.22)	0.183
Vertical social capital						
	High	72	71	66	69	
	Moderate	16	15	13	16	
	Low	11	14	21	15	

OR = odds ratio \*p≤0.05; \*\*p≤0.01; \*\*\*p≤0.001

<sup>a</sup>) At the individual level, the model was adjusted for gender, age, migration status, baseline values for vertical social capital and SES. At the class level, the model was adjusted for grade, while at the school level, the model was adjusted for intervention. The baseline values for vertical social capital appeared as a significant covariate in the final model.

Table 7.1: Variance partition coefficient for the empty model on vertical social capital.

VCP	Covariance parameter estimates class level <sup>b</sup>	Standard error
0.117404607	0.4376	0.1841
11.7%		

<sup>b</sup> For the empty model

Table 8. Effect of the We Act on 'sense of belonging in the school' at the six-month follow-up.

Sense of belonging in the school (%)					Effect (Intervention vs. Control) <sup>a</sup>	
Baseline		Follow-up			OR (95% CI)	p-value
Intervention	Control	Intervention	Control			
Overall n = 547						
Intervention					0.54 (0.37–0.79) **	0.002
Sense of belonging in the school						
High	63	67	56	65		
Moderate	13	13	13	17		
Low	23	20	31	18		

OR = odds ratio

\*p≤0.05; \*\*p≤0.01; \*\*\*p≤0.001

- a) At the individual level, the model was adjusted for gender, age, migration status, baseline values for sense of belonging and SES. At the class level, the model was adjusted for grade, while at the school level, the model adjusted for intervention. Grade and baseline values for sense of belonging in the school appeared as significant covariates in the final model.

Table 8.1. Variance partition coefficient for the empty model on vertical social capital.

VCP	Covariance parameter estimates class level <sup>b</sup>	Standard error
0.117404607	0.4376	0.1841
11.7%		

<sup>b</sup> For the empty model

### 6.3 Paper III: Mechanisms Integrated into a Participatory Health Educational Process in Relation to Social Capital and Children’s Agency

The analysis resulted in a conceptual framework that illustrates several mechanisms interacting with different indicators of social capital and collective actions within a participatory health educational process (Figure 8). The findings are presented in line with Rowe and Stewart (2009) and the emerging field of mechanisms for generating social capital in the school context. Hence, the framework distinguishes between interactional and organisational mechanisms residing at class and school levels. Our framework, nonetheless, deviates by outlining a third micro child level and by illustrating the interaction among the levels. In the following subheadings each mechanism and its relationship with social capital indicators and collective actions is described at its respective analytical levels.

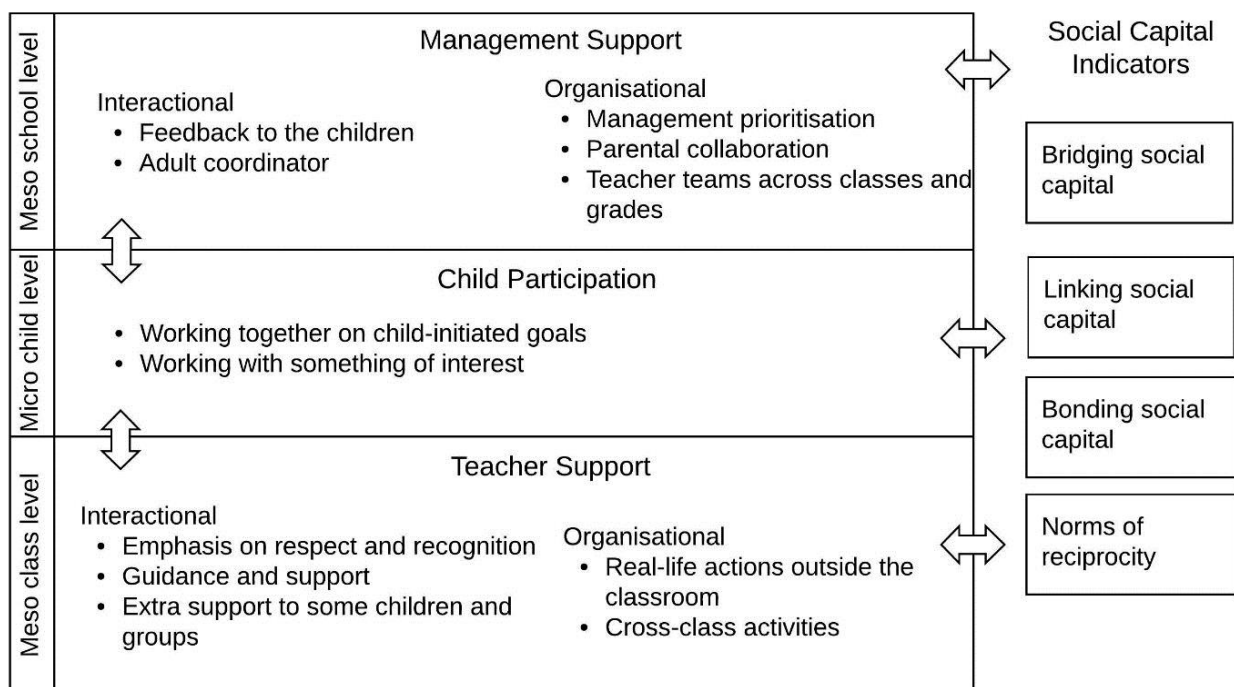


Figure 8: Mechanisms influencing the social capital indicators (and collective actions) in a participatory health educational process.

### 6.3.1 Micro child level: Child participation

When exploring children's participation in We Act, at the micro child level, which emphasises interaction among the children, two distinct mechanisms were found to affect indicators of bonding and bridging social capital among children (Figure 8).

*Working together on child-initiated goals.* The process of working together on child-initiated goals in smaller groups (as part of the vision, action and change phases) was found to facilitate a form of social interaction that promoted motivation and engagement of children. When children were free to form groups on their own to collaborate on their visions, it facilitated mostly indicators of bonding social capital with their friends; of same gender from the same class and who shared similar interests. When teachers intervened and formed the groups based on the individual children's interest, the groups tended to become more diverse allowing for practises of bridging social capital to develop or for bonding to transform into bridging social capital. Working in larger groups within the class was, for example, by some children experienced as being a part of something 'broader' that connected the class as illustrated in the interview excerpt:

MODERATOR: Why did you think it should be a green [smiley]?

TOBIAS: It was good teamwork.

MODERATOR: Good teamwork?

CAMILLA: Really good teamwork.

MODERATOR: Better teamwork than normal?

CAMILLA: [mmm] [ANTON: yes] you were working more as a team with the class, because, when you had chosen your ... which mission you wanted, then you started to cooperate on what was possible, there were these themes on ... fruit shop, school lockers, and then you had to choose between these two and we chose fruit shop. ... So we actually worked together on everything on the fruit shop.

(5th grade, School A)

*Working with something of interest.* Being able to choose a vision of interest, was by children at both schools, emphasised to be important for the individual children's motivation to engage in the group work, and thereby develop connectedness among the members in line with the indicators of bonding and bridging social capital (Figure 8). This was facilitated through the group members' motivation to engage in the group work that allowed the group

to get into their 'own world', as one girl said, and was positively experienced by most children across the two schools, as exemplified in the interview excerpt below:

FIONA: I thought it was great... Because [SALLY: yes] you entered your own little [ehm] world with your group [laughing a little] if you could put it like that because you really had to also think a lot because we were sitting [in my group at least...] we were sitting and had to come up with the right water source for the right price and things like that and we also called a lot of companies and we thought it was a lot of fun [MODERATOR: Yes]. I thought it was a lot of fun.

(5<sup>th</sup> grade, school B)

The lack of interest in a vision or being forced to work with a 'weird' or 'dangerous' vision was on the contrary seen as a barrier to successful group work that could result in conflicts, or examples of children ended up being excluded in line with the practices of bonding social capital and social capital's 'dark side', as emphasised in the below interview excerpt:

MODERATOR: Is everyone in the class thinking it's great or are there someone in the class that don't think they are participating much?

MIKKEL: Yes probably [Frida R: That's ANTON]

RIKKE: Because he wanted to do Parkour [MIKKEL: He would just criticize us all the time]

RIKKE: Then he would be alone on a thing and then there are only three posts and what can you say? [It actually ended up with him joining ours I think]

[BERTHIL: Yes].

MIKKEL: He just sat there and criticized us and said 'It's not going to work and you can't afford it [MODERATOR: Okay]

BERTHIL: But it wasn't that expensive.

MIKKEL: No

MODERATOR: So his idea has kind of been shot down?

MIKKEL: Yes. [BERTHIL: It's because there was not really anyone that wanted to do it. He was the only one in the class that had an interest in it.

(5<sup>th</sup> grade, school A)

At the micro child level a mechanism of *competing individually and collectively* was also found to interact especially with bonding social capital and particularly the 'dark side' of social capital. This mechanism occurred primarily as part of the investigation phase, when the children were wearing a step counter and logging their food intake, which some children described as a fun thing that connected the boys in the class. Simultaneously, this mechanism

also created a sense of exclusion in other children – especially in the less socially trusting classes where some children (including some overweight children) elaborated saying that they believed their peers did not go to school because they were afraid what others would think of them in relation to their step numbers.

### **6.3.2 Meso class level: Teacher support**

The ability of children to influence the indicators of bridging and linking social capital, norms of reciprocity and collective actions was, however, to a large degree dependent on various support mechanisms at the class and school levels, respectively. These are divided into interactional and organisational mechanisms (Figure 8). Here, the teachers and other adults played an important role.

#### **Interactional**

*Emphasis of respect and recognition.* When working with the IVAC methodology teachers played an important role in emphasising norms of generalised respect and recognition towards different health behaviours. For instance, in relation to the competition mechanisms that occurred in the investigation phase, which created some frustration among some children.

*Guidance and support,* moreover, acted as a mechanism influencing the norms of reciprocity and practices of linking social capital, particularly, as a part of the vision and action and the change phases, where children felt being more included in the decision-making processes, which is exemplified in the interview excerpt below:

CAROLINE: I thought it was great. [LINE: They really wanted, they really wanted to hear our ideas and wanted to help us get on with our ideas; they wanted to give us advice and things like that. [TINA: They tried to improve the things].

MODERATOR: Is that like it normally is or was it different?

CAROLINE: It was a little bit different [LINE: I thought they made it easier, they helped us more [TINA: Yes] they listened more, [CO-MODERATOR: mmm] it is often like 'can I ... I would like to do this or I would like to do this in a normal class', but then it is like 'No, you can't, you have to do this!' It is not because they [the teachers] never help us or anything, but it is not really like that in the classes [LINE: And not in the same way] [TINA: Yes].

(5<sup>th</sup> grade, school B)

The lack of guidance and support simultaneously affected linking social capital negatively, in terms of children's experience of being involved fairly. For example, some children from school B who were not elected to present for the school management found it 'unfair' that their teachers had not guided them more and helped them making their ideas more realistic.

*Extra support to some children and groups.* While many groups managed to divide and share tasks and help each other at both the schools, some children or groups needed extra support and guidance from their teachers as described in the mechanism 'extra support to some children and groups'. Teachers' involvement in group making or helping dividing tasks between them nonetheless appeared to facilitate the practices of bridging social capital by allowing the children with different abilities to collaborate and help each other.

### **Organisational**

*Real-life actions outside the classroom.* Working with real-life activities related to their visions such as making phone calls to companies, interviewing people or finding useful information on the internet, was found to facilitate motivation among children and was seen by the children as adding a fun element to the group work as highlighted in the interview except:

MIKALA: I think that where you had to do things [eh] [ALBERTE: Real-life]  
[MODERATOR: Try to] Yes reality [MATHIAS.: I thought it was a lot of fun because  
We were allowed to form some groups. I thought it was REALLY REALLY funny,  
because we were allowed to choose and explore our own imagination soo  
[MODERATOR: Okay].

(5<sup>th</sup> grade, school A)

This mechanism further enabled opportunities for new social interactions among children than the traditional classroom education. For example, when the children at school A conducted surveys across grade levels, where the 'older' children helped the 'younger' children who could not read, and thereby, became more familiar faces acting responsible, according to one teacher.

*Cross class activities mixing peers.* Teachers' intervention in forming groups, making seating arrangements or working across classes was found to influence indicators of bridging social capital. At school B, the teachers decided to implement the vision phase as a theme week working across three 5<sup>th</sup> grade classes who were mixed into three groups. This allowed

the practices of bridging social capital to develop facilitated by new smaller working constellations with 'fresh blood' as one teacher said and where children cooperated in smaller groups and learned about each other. Working in smaller groups across classes was, by children at school B, perceived as being fun and as creating more well-being and cohesion among the classes, which is illustrated in the interview except below:

SARAH: I think ... when we are mixed in these teams ... [Kimmie: yes] then I think ... that ... the classes can be more together on [Bertram: mm] on one thing. [Bertram: You learn more about...] Yes [Bertram: ... the others]. You know ... in a way, you get to know the others better. [moderator: Sure.] I think this creates a better unity between the classes with them ... from the other classes.

(5th grade, School B)

### **6.3.3 Meso School Level: Management support**

Several mechanisms that influenced the indicators of social capital and collective actions were identified at the school level. Here, the school management played a particularly important role by supporting collective actions and facilitating structures for bridging and linking social capital.

#### **Interactional**

*Feedback to children.* Feedback and social interaction seemed especially important in terms of affecting the practices of linking social capital with respect to children's sense of being heard and being involved in the decision-making process fairly and meeting people (adults) with the 'real power'. At school B, groups who got 'elected' to present for the school management and the school board got feedback and were praised for their work, which was experienced as being fun, exciting and motivating by those who had this opportunity, which is illustrated in the field notes below.

Louise: I say green [smiley], but that is also because ... I also got all the other stuff ... that was great fun, when we were presenting for the school board ... so that was ... not everyone had that chance.

(5<sup>th</sup> grade, School B)

Though the pupils hereafter seemed to be disconnected from the process causing frustration for some children, both the vice principals, nonetheless, believed that it was important to



provide children with feedback to give them an experience of being involved and being taken seriously in the decision-making processes with adults in line with the practices of linking social capital.

*Adult coordinator.* When discussing the difficulties in taking collective actions, both the vice principals emphasised the mechanism of having an adult coordinator in charge of the progress ensuring that the visions moved from the class level to the school level. Both the vice principals, moreover, highlighted the need for this person to ensure the continuous involvement and communication with the children in the process as being important in terms of making the children feeling involved in the process and taken seriously by the adults, in line with the indicators of linking social capital.

## **Organisational**

*Management prioritisation.* A significant mechanism that was found to influence the indicators of collective actions as well as linking social capital at the school level was the mechanism of allocation of resources. Teachers and children from school A highlighted their frustration regarding the management support when working with the visions. At school B, similar reactions were observed.

*Parental Collaboration.* Collaboration with parents was found to influence indicators of collective actions. At school A, parents were invited to see their children's visions that made them work more enthusiastically with their visions, but the parents were disconnected after that. At school B, the school management decided not to invite the parents, making the parents' involvement limited. Teachers, vice school principals and the children, however, emphasised parents being important and a potential resource in terms of facilitating collective actions.

*Teacher teams across classes and grades.* School principals and teachers emphasised that, to facilitate collective actions and ties among children from different classes (bridging social capital), a well-functioning teacher team and cooperation at the grade level were essential mechanisms. At school A, the vice principal highlighted a lack of synergy and cooperation among the classes and the need to involve more grade levels at the school when reflecting on why no collective actions had been initiated. At school B, the existing well-functioning teacher team was seen as a fundamental mechanism in making the vision phase move successfully

from the class level to the school level as well as facilitating practices of bridging social capital as emphasised in the interview expects:

If you can't really find the ones you get along with best in the small group you are in, then you can actually find someone around. I actually didn't notice this until I was up there glancing around that they did work across the grades and I experience that they had themselves chosen, in relation to what they wanted to work with, but working across the grades. They partake in other collaborations than those, they are normally in in their own grade. I actually thought that was very positive.

(Vice principal, School B)

### **Challenges in working democratically involving all children**

In addition to the findings included in Figure 8, showing the identified mechanisms influencing the social capital indicators, the study points towards some challenges as part of a participatory health educational process between a democratic vs. a more powerful process. At school A, all children were involved presenting their visions for their parallel class, and all children from the 5<sup>th</sup> grade classes presented their visions to an external audience (including parents, children from their parallel class and the school principal). The process did not, though, reach the school level resulting in no collective actions at the school level and few actions at the class level, which made some children frustrated. At school B, all the children presented their vision for their peers, but only a few democratically selected groups presented for the school management and later the school board, where the process was coming into lay, but with some groups being frustrated for not being elected.

## 7. Discussion

### 7.1 Main Findings

The highlights from **Paper I** were the identification of three forms of participation, which relate to different practices and thus different opportunities and constraints of generating bonding and bridging social capital in the school context. The practices integrated into 'child-directed participation' tended to interrelate with bonding social capital. The practices integrated into 'adult/child-directed participation' tended to reinforce both bonding and bridging of social capital. The practices integrated into 'adult-directed participation', did not seem to interrelate with the development of bonding or bridging social capital.

The highlights from **Paper II** were the non-significant effects of the intervention on horizontal social capital or vertical social capital at the six-month follow-up. A negative effect of the intervention was found on the sense of belonging in the school at the six-month follow-up. Gender and grade appeared to be important for horizontal social capital, while only grade was important for the sense of belonging in the school.

The highlights from **Paper III** include a conceptual framework, which elucidates several mechanisms that interact with indicators of social capital and collective actions under a participatory health educational process, and advances three new theoretical insights. First, the framework introduces a third micro child level pointing at significant mechanisms, while also underlying some challenges that can arise as part of a participatory health educational process. Second, the framework incorporates the interactions among the different levels and emphasises the importance of efficient interactional and organisational support mechanisms at class and school levels to influence indicators of bridging and linking social capital, norms of reciprocity and collective actions. Third, the study illustrates some challenges between working democratically involving all children versus a more powerful process.

## 7.2 Paper I

### 7.2.1 Comparison with other studies

Paper I explored children's experiences of their opportunities and constraints to participate within the school setting, which were inspired by Hart's (1997) ladder of participation and Simovska's (2004) operationalisation of this concept within the school setting. The dynamic and contextual nature of the conceptualisation of the mechanisms for the development of social capital, and how different settings both act as a constraint and enable generation of different forms of social capital, are in line with other scholars (Allan & Catts, 2013; Jørgensen, 2016; Morrow, 2001; Weller, 2006).

In line with the current study, Morrow (2005) found that children's experiences of initiating ideas in relation to educational activities in a British context were rather unusual. Morrow (2005) found how the school children's general participation experience in the school setting was more passive than active, which the children perceived in a rather negative way. It was described how 'All under 16 years old "participate" in school in the sense of "being" there, because it's compulsory, but to what extent do they feel that they have a share in that what does it mean to them?' (Morrow, 2005, p. 63). On one hand, Morrow (2005) argued that children perceived little participation in the school in terms of influencing the educational activities. On the other hand, and in line with the current study, Morrow (2005) found how schools also offered an opportunity for the children to interact socially and engage with their peers, for instance, during playtime and with teachers during lessons, which was likely to affect the extent to which children were likely to participate actively. Morrow (2005), thus, argued that active participation had to be viewed in the context of the quality of relationships within the school. The current study adds important knowledge to the previous studies by emphasising specific mechanisms integrated into different forms of participation.

Similar to the findings of this study, a qualitative comparative study on peer-social capital formation for minority students in Birmingham and Madrid (aged 14–16 years) found out-of-class activities and being from the same class as the key mechanisms for development of peer-social capital (Jørgensen, 2016). The tendency for children and youth in general to primarily develop homogeneous networks in terms of same gender friendships is, moreover, found in

other studies (Billett, 2011; Morrow, 2006). A qualitative Danish study on social capital within the school setting with children from 5<sup>th</sup> and 6<sup>th</sup> grades also found that children across both the schools tended to utilise and develop primarily homogenous networks with children from the same class and with the same interests (Albeck, 2007).

Negative perceptions of participation embedded within adult-directed participation, such as feeling ignored or less supported by the teacher, is similar to Morrow's (2005) findings. This study, nonetheless, provides new insights into the more negative aspects of non-participation and its relation to social capital and trust building. For instance, by highlighting specific practises that occurred when having a substitute teacher, whom the children did not know, and therefore some children's reactions to it. This emphasises the importance of *ongoing* social interactions, as described by Putnam (1993) as well as Putnam and Feldstein (2004) with respect to building trust. More importantly, it also stresses the importance for the school management, in terms of prioritising, such as having as few teacher changes and substitute teachers as possible. This is because knowing the teacher well seems to be essential in building trusting relationships.

Student-centred approaches, which I consider similar to 'participatory democratic education', were in several qualitative empirically conducted studies found to be significant mechanisms conducive for social capital (Neely et al., 2016; Rowe & Stewart, 2009, 2011). The importance of structural mechanisms as brokers of social ties (both horizontal and vertical) is also highlighted in a longitudinal qualitative study on social capital generation in the school setting (Cox, 2017). Cox (2017) showed that organisational structures within the school, such as mentor-arrangements, constitute key mechanisms for breaking social ties for the low-income students of colour. This emphasises the danger in viewing child participation as an end in itself; thus, losing sight of the way in which organisational and adult structures impact children in important positive ways through pedagogical processes and structural conditions (Morrow, 2005).

By merging two different perspectives, i.e., introducing a democratic perspective of participation in relation to different types of social capital, this study has contributed with a nuanced understanding of the mechanisms for social capital generation in the school setting from the children's perspectives. This study does not, however, provide an insight into the

causal direction between participation and social capital (networks of bonding and bridging social capital), but instead provides qualitative knowledge into practises and mechanisms that interlink the concepts.

### **7.2.2 Methodological issues**

The criteria for discussing qualitative research quality differ from the criteria developed for quantitative studies and the general concepts of *validity*, *reliability* and *generalizability* (Haliker, 2016; Miles & Huberman, 1994). Haliker (2016, p. 105) highlights two issues that relate to validity in focus group interviews research. First, the operationalisation of the research aim in relation to the underlying construct, theoretical perspective including the choice of method and how one develops the moderator guide, and the subsequent data analysis. Second, the data collection has to be performed in a systematic and reflective way.

The method of focus group interviews was chosen as the primary research method due to its advantages in yielding data on group level (both regarding content and process) (Morgan, 2007), offering support towards children (Mauthner, 1997) and by helping redressing the existing power imbalances between children and adults (Green & Hogan, 2012). Drawing on an abductive research strategy (Alvesson & Sköldbberg, 2009), the focus group interviews were analysed with respect to both content and social interaction, which was done separately (Duggleby, 2005). Building on the notes, that I had made immediately after the interviews on the group dynamic and the transcription, the interaction analysis was inspired by Stevens' (1996) work. Emerging themes from the interaction analysis, such as social positioning, and supporting each other, thereby allowed for insights into the highly dynamic and relational nature of participation and social capital. A limitation, however, relates to the reporting of the social interactions within the analysis. These could be more visible in strengthening the transparency of the analytical process.

To strengthen the validity of this study, the moderator guide was pilot tested in two groups (6<sup>th</sup> grade) at school A. However, I still had to make some minor corrections after the two first focus group interviews, which is considered a limitation in terms of the cross-case comparison between the two schools. To probe the children's discussion on their participation in everyday school situations, in relation to what we as researchers would term social capital, various

activities were conducted, including ranking and talking about the photos combined with descriptive and evaluative questions (Epstein et al., 2006; Morgan et al., 2002). Similar to Epstein et al.'s (2006) study, I decided to use the found photos that were chosen to depict different forms of child-participation and social interactions (among children and between children and adults) in line with the theoretical construct and to highlight the different spaces of the school area. The photos had been pilot-tested in two groups in a 6<sup>th</sup> grade class, who described various stories from their everyday school life regarding the photos. Additionally, the phenomenon of participation was further deemed rather abstract and the photos were deemed easier to comprehend. Nonetheless, it is likely that with other photos, the children would have highlighted other stories and the use of photos might have steered the participants' discussion in a certain more 'adult'-oriented direction.

An alternative option applied by other researchers involves letting the children take the photos. This method allows autonomy to the participants and has been used by Morrow (2001) and Smyth et al. (2012) in their studies of social capital in relation to children. Smyth et al. (2012) described that, for secondary school children, the act of taking the pictures by the participants seemed as a powerful research tool, especially in combination with follow-up interviews. Such a process has, however, certain concerns. The researcher is limited to knowing what or whom the child will take a photo of. In the context of the school, this would imply that informed consent has to be provided by all the school children (Epstein et al., 2006). Additionally, as the research question in my case was focused on the relation between participation and social capital, a more structured approach was deemed relevant, similar to other studies (Diamond & Hestenes, 1996).

The composition of groups into 'less active children' vs. 'active children', based on the teachers' assessments, seemed to work well stipulating talks and discussions from most children in the groups. In some groups, the specific social dynamic of the group members due to being from the same class nonetheless seemed to evoke neutral or more reluctant responses on issues related to sensitive aspects such as trust in peers and teachers. The moderator guide made use of various games and activities to avoid creating social control. The use of individual interviews or other methods, such as freely written accounts, as complementary to the focus group interviews on more sensitive topics, might have yielded a deeper account of the children's experiences. The groups were, furthermore, composed with

a mixture of boys and girls (from the same class) following Kennedy et al. (2001). Mixed gender groups seemed to work fine with respect to having open-minded talks. Yet, it is likely that the use of single gender groups, as complementary to mixed gender groups could have yielded deeper insights into the gender theme (Billett, 2011). The moderator emphasised the distinction between the two themes and used various activities, which were not related to the We Act study. The children responded with various stories and experiences from their everyday school situations, with no references to the We Act, indicating that the timing of the interviews did not affect their responses, though it could not be ruled out.

In terms of reliability, which relates to the 'craftsman like skills' (Halkier, 2016), all the focus groups' activities were conducted in an after-school facility with a less 'school-like' atmosphere, to avoid teacher-like associations with the moderator (Morgan et al., 2002). The seating was arranged in a way, so that the participants and the moderator would be sitting in a circle to allow everybody to participate. To support the informality as well as the redressing of the existing power imbalances, each session was started by establishing some ground rules, as emphasised in Section 5.3.1 (Appendix A) (Morgan et al., 2002). Three researchers, trained in focus group interview methodology with children in this age group, conducted the interviews.

It is not possible to generalise qualitative findings in the same way as quantitative statistical findings. Instead qualitative studies can be generalised analytically (Halkier, 2016). This implies that the observed empirical patterns are linked to theoretical constructs and can be generalised for similar analytically recognisable context (Halkier, 2016). The schools were purposefully selected to represent the heterogeneous contextual conditions to obtain insights into patterns across different cases. The participants were also selected from different classes, and to further gain insights into different children's perspectives, the groups were composed in a way, so that the teachers assessed groups that were both 'active' and 'less active'. The resulting patterns from the interaction analysis and content analysis were linked to the theoretical constructs of Hart's (1997) ladder of participation and the various types of social capital, which was operationalised as practices. Throughout the analysis, Hart's (1997) original 8-steps ladder was reduced to three more simple distinct categories based on the children's accounts. These were further interlinked with three mechanisms and various



types of social capital practises (bonding and bridging). Hence, the model might be generalised analytically to similar contexts. That said, when considering the limitations regarding group composition and a possibility of having created social control in some groups, I also saw the findings as a first step towards building a more child-oriented typology of different types of child participation in the school setting that relates to various types of social capital.

## 7.3 Paper II

### 7.3.1 Comparison with other studies

The prospective studies on the effect of community school collaborative programs on selected social capital items have to date focused only on an adult population (Chilenski et al., 2014; Sun & Stewart, 2007; Thornton & Leahy, 2012). Sun and Stewart (2007) found that the indicators of HPS were significantly related to the indicators of social capital among the staff. The HPS intervention was implemented over a period of two years. Positive changes on social capital, measured by the Social Capital Index (Bullen & Onyx, 2000), were found in sense of trust and safety, proactivity in school context and the working relationship between staff (Sun & Stewart, 2007). Another prospective school community intervention study PROSPER<sup>8</sup> found significant improvements in some aspects of bridging and linking social capital of the team community members, using a longitudinal and randomised design and multi-level statistical model procedures (Chilenski et al., 2014). Though not without limitations, the above studies do suggest that comprehensive intervention designs involving ongoing collaborations and interactions of several relevant stakeholders at different structural levels (over a time span of 2–2.5 years) can positively impact the aspects of social capital in an adult population.

Looking towards prospective studies that measure the changes related to children, other concepts, such as *school connectedness* or *school bonding*, are used in relation to theories,

---

<sup>8</sup> It aimed at decreasing adolescent problem behaviours in rural and semi-rural communities by utilising and strengthening community systems to deliver evidence-based prevention programs.

such as Attachment theory and Social Control Theory and Development Model (Chapman et al., 2013). With respect to the concept school connectedness, it can be argued that this is similar to the conceptualisation of social capital that was used in the current study, though it does raise an issue of linguistic confusion in the literature. A prospective comprehensive school-based intervention study designed to promote resilience among students (aged 11–14 years) through development of a caring community over a period of three years (Battistich et al., 2000) also showed positive effects on the items ‘sense of the school as a community’ and ‘trust and respect in teachers’ (Battistich, Schaps, & Wilson, 2004). This stands in contrast to the findings of this study, though the study conducted by Battistich et al. (2004) is limited by missing the follow-up data. One main difference between Battistich et al.’s (2004) study and this study is the time-frame in which the intervention was implemented, which counted three years as compared to the six months in the We Act study.

A study that is more comparable to this study in terms of intervention length, with different results on school connectedness as compared to this study, is a Danish prospective comprehensive school intervention study titled ‘Shaping the Social’ (Andersen et al., 2016). Designed to promote students’ well-being and reduce smoking in vocational schools (average student age 21), Andersen et al. (2016) found significant improvements in school connectedness at the 10-week follow-up in the intervention group. Andersen et al. (2016) also examined the effects of the intervention on student support and teacher relatedness using similar scales as those applied in this study, but did not find any effect of the intervention on these items.

It is important to consider why a negative effect on ‘sense of belonging in the school’ was found in this study, contrary to our stated hypothesis and findings from other studies, and to reflect on why no significant effect was found on horizontal and vertical social capital. This will be discussed in relation to the We Act’s implementation process and methodological issues. The conceptual framework of the We Act intervention is discussed in Section 7.4.2.

### **We Act Process Evaluation**

The process evaluation of this study found that the implementation fidelity to the educational component and school component was low, regarding the transition from the vision phase to the action and change phase (Bonde et al., 2018). The implementation fidelity regarding the

parental component was also low. At the time of follow-up measurement, few collective actions had occurred both at the class level and the school level. It is likely that the missing support from both teachers at the class level and the school managers at the school level influenced the children, who might have felt disillusioned when realising that the school management and teachers were not going to push the process further (Stjernqvist et al., in press – Paper II). This argument is supported by a systematic review on the effects of student participation in school health promotion, where similar negative effects at the individual level in relation to children's perception of feeling ignored or not taken seriously have been described (Griebler et al., 2014). A cross-sectional study on 'sense of community in the school' similar to sense of belonging in the school, moreover, found that students' perception of a democratic school climate was a significant simultaneous and an independent predictor of school sense of community (Vieno et al., 2005). The missing actions might, therefore, have resulted in a low perception of participating in the rule-making process, which might have negatively affected the sense of belonging in the school. Before concluding on this, the following section discusses some of the study's methodological issues.

### **7.3.2 Methodological issues**

#### Internal validity

Due to the difficulties in the recruitment process the study used a quasi-experimental controlled pre- and post-study design with three level clusters. The matching of intervention and control schools was considered of high importance. Schools were matched with their respective municipalities and socio-economic backgrounds of the families as assessed by a central person within the municipality, who were responsible for the specific school area (Sabinsky et al., in press). The lack of randomisation, however, increases the risk of potential confounding and selection bias, and thereby, the validity of the analysis (Welch et al., 2011). Though I consider the possibility of positive selection limited, as the decision to sign up for the project was primarily taken by the school principal and not necessarily by the teachers who implemented most of the intervention and where the schools differed in their socio-economic profiles. Schools that signed up might, however, differ from the broader population in terms of being more resourceful school communities. The descriptive baseline analysis of the intervention and control groups (Table 5) showed general consistency regarding the

measured outcomes and individualistic characteristics, except for the variable grade-level. More 6<sup>th</sup> grade classes appeared in the control groups as compared to the intervention group. This means that the variables: intervention, school and grade are partly confounded by design, while some reservation for the conclusion regarding the estimates of the intervention must be recognised. To account for the potential confounding at the individual level and class level, the analysis adjusted for selected covariates (Section 5.4.4). However, we cannot exclude the possibility of unmeasured confounding or imperfectly measured confounding.

#### Study population, drop-out and power

The response rates at follow-up was 88.6% at the intervention group and 82.2% at the control group. These are considered high as compared to the rates of similar studies (Andersen et al., 2016; Battistich et al., 2004). For example, Andersen et al. (2016) reported response rates at the follow-up questionnaire at 58% and 52%, respectively. One reason for the high participation rates might be that the research team was present at the school for a week (while collecting data on dietary habits), which allowed the possibility to schedule, with the teachers, the best time to conduct the surveys. The reasons for non-participation in this study related to being absent from school (sickness, vacation or being absent over a longer period), change of school during the implementation period and a wish to be excluded. In terms of selection bias, the children who were lost to follow-up were more likely to report low and moderate vertical social capital as compared to the group who answered both baseline and follow-up, though this was borderline statistically significant (Table 4). Hence, we might have underestimated the real effect of the intervention with respect to the group of children who reported low and moderate horizontal social capital and who were lost to follow-up. The power calculation was based on dietary habits and physical activity and not social capital. This is in line with previous prospective social capital studies (Sun & Stewart, 2007). Nonetheless, when comparing the current study with Andersen et al.'s (2016) study, it was considered likely that the study was under-powered, although a lack of effect on both horizontal and vertical social capital was also reported in the study conducted by Andersen et al. (2016). To achieve a power of more than 80% for ordinal outcomes with three categories, Ali et al. (2016) argued that at least 50 groups similar to 50 classes are required. Compared to the 28 classes that participated in the We Act study, it indicates that the study might be underpowered. This

increases the risk of making a type II error, where you end up concluding that there is no effect, when in fact there is (Field, 2008).

#### Data analysis and confounding

Multi-level ordinal logistic regression analysis assuming proportional odds was applied to measure the effect of the intervention using the ML method, which was found suitable for three-category ordinal outcomes (Ali et al., 2016). The rationale for constructing the indices as three-categorical ordinal outcomes followed Nielsen et al. (2015). Yet, some researchers tend to treat variables with a Likert scale as continuous variable assuming normal continuous distribution of data, whereby multi-level linear regression analysis can also be applied (Bauer & Sterba, 2011; Hedeker, 2015). Though models for continuous data might be easier to interpret, this was not considered advantageous in our case, as these models do not consider a potential ceiling effect of the dependent variable, which might result in biased estimates (Hedeker, 2015). The analytical strategy to conduct multi-level analysis is considered a strength as compared to the previous studies conducted by Battistich et al. (2004). Generally, it was, however, not possible to estimate the variance components associated with the variation between the schools due to a non-positive definite G matrix. We assume that this is because the variance explained at the school level is negligible as compared to what is explained at class and individual levels (Stjernqvist et al., in press – Paper II). We cannot, however, exclude the possibility that the variance explained at the schools would be higher if a higher number of schools had been included. The models were adjusted for covariates and respective baseline values (Section 5.4.5). This followed previous studies conducted by Bond et al. (2004), who examined similar outcomes, i.e., social and school relationships among children (aged 13-14 years old) and Pronyk et al. (2008) who controlled for baseline values.

#### Data source information bias

Social capital is a multidimensional construct with a general lack of consistent measurement in social capital research and especially in relation to children (Morgan & Haglund, 2012; Paiva et al., 2014). The validated HBSC questionnaire and categorisation into horizontal and vertical social capital, drawing on previous exploratory factor analysis (De Clercq et al., 2014) as well as sense of belonging in the school, were deemed relevant and considered a strength in this study. To determine the internal validity of the outcomes, a Cronbach alpha test was

conducted, which is a method applied in most validation studies (Paiva et al., 2014). The Cronbach alpha coefficients ranged between 0.7–0.8, which are considered acceptable as Cronbach alpha coefficients were  $\geq 0.70$  (Cronbach, 1951). In the context of an effect study, the selected outcome measures do, however, pose methodological challenges as the distribution tends to be positively-skewed with the lack of sensitivity. This makes positive changes difficult to detect, though, in this study, we would rather expect a negative effect. A further limitation relates to a seemingly confusion regarding operationalisation of various indicators. For instance, the questions used to measure the indicator ‘sense of belonging in the school’ in this study were by De Clercq et al. (2014) termed as ‘trust’. This highlights an issue within the social cohesion approach where the researchers tend to use secondary data instead of primary data (Kawachi, 2010).

#### External validity

To our knowledge, this study is the first to measure the effects of a comprehensive HPS intervention using the IVAC methodology on selected social capital outcomes in school children through a prospective quasi-experimental controlled pre- and post-three-level cluster design. Rather than being a confirmatory study, where the results can be generalised to other population groups, this study is considered exploratory providing guidelines from where future studies can proceed. This study has produced new insights into the effect of a comprehensive HPS intervention following the IVAC methodology on child cognitive social capital. The study finds that children’s participation in a participatory health educational process can affect children’s sense of belonging though without efficient management support this may have a negative effect. The study points at some methodological limitations that might be considered in future studies. These include issues with the applied social capital instruments; the power of the study; issues with confounding by design, and the quasi-experimental design (in contrast to a CRT) among others. Despite some strengths as highlighted, considering the methodological limitations and with low implementation fidelity regarding the action and change phases at both class and school levels, this study’s external validity should be judged with caution.

## **7.4 Paper III**

### **7.4.1 Comparison with other studies**

The findings from Paper III adds to the emergent evidence on the mechanisms for building social capital within the school setting under the HPS framework, by connecting the HPS approach and IVAC methodology with different types of social capital and highlights three main new theoretical insights.

Related to the first theoretical insight, the mechanism of ‘working together on a child-initiated goals’ is comparable to what Rowe and Stewart (2009) termed as ‘significance of class organisation activities’ and Neely et al. (2016) termed as ‘class organisation’. Rowe and Stewart (2009) found student-centred approaches as the most significant mechanisms at the class level to promote connectedness in terms of motivation and ownership along with student friendship, more teacher support, ‘feeling of connectedness’ and tolerance of diversity among students. Baker and Bridger (1997), moreover, stressed ‘cooperative learning’ that is similar to this mechanism as being important in relation to building caring social environment within the classroom. This study, thus, adds to the existing accumulating evidence using the IVAC methodology and connecting this mechanism with different types of social capital. This study further adds a new perspective by highlighting the importance of ‘working with something of interest.’ This mechanism stresses that children’s individual interests, when working with visions, affect group work processes and create an opportunity to develop group connectedness, while a lack of interest in a vision holds potential negative elements in terms of social exclusion. Moreover, the mechanism of ‘competing individually and collectively’ provides insight into the potential dark side of social capital that can reveal itself when working with a participatory health educational process. This has received less theoretical and empirical attention (Field, 2008). While comprehensive analysis regarding the mechanisms of the negative side of social capital in relation to the individual child’s socio-economic backgrounds, as emphasised by Bourdieu (1986), is beyond the scope of this study, the current findings do point towards a risk of having excluded some children. The risk of social exclusion when mobilising social capital has also been underlined by Hampshire and

Matthijse (2010) in their empirical social capital study on an art project SingUp, which was designed to improve the health and well-being among children.

Related to the second theoretical insight, Rowe and Stewart (2009) highlighted seven structural and six process mechanisms at the school level and two structural and two process mechanisms at class level, respectively. This study, thus, deviates by highlighting fewer mechanisms at the school level, although some similarities exist. For example, the organisational mechanism of 'teacher teams across classes and grades' that was found to influence bridging social capital is comparable to what Rowe and Stewart (2009) and Neely et al. (2016) termed as 'support structures for school staff'. This mechanism was found to facilitate an overall sense of belonging to the same school community and cross-class activities comparable to the practices of bridging social capital (Neely et al., 2016). The interactional mechanism of 'feedback to children' that was found to be interrelating with linking social capital is further comparable to the mechanism of 'staff-student partnership', as emphasised by Rowe and Stewart (2009), which was found to make the most substantial contribution to school connectedness, such as creating a sense of school belonging. This stresses the importance of working with staff-children relationships also at the management level with respect to building linking social capital and children's perception of belonging to the school. Rowe and Stewart (2009) and Neely et al. (2016) did not explore the interaction between the different levels or children's agency in terms of influencing bridging and linking social capital, norms of reciprocity and collective actions in a participatory health educational process. The difficulties faced by children in terms of influencing indicators of bridging and linking social capital are, however, also highlighted by other studies conducted by Raymond-Flesch et al. (2017), who also found adolescents' agency limited in terms of bridging and linking social capital in a rural context.

Related to the third theoretical finding, Eriksson et al. (2013) pointed to the same dilemma in terms of working with a democratic and inclusive process versus working with a more powerful process. In a Scandinavian context, Allan and Persson (2016) found that inclusive educational processes where non-disabled students and disabled students came together indeed could be successful in terms of building social capital defined as bonding, bridging and linking practices. Of importance in terms of building bridging social capital were the practices



where the teachers actively encouraged students to help one another by saying that it was advantageous to help and support each other. The teachers' emphasis on norms of respect and recognition for other children, oneself and the environment has also been emphasised by other studies (Merwe, 2015; Rowe & Stewart, 2011). This suggests that inclusive practices within the 'closure' of school and class setting are efficient in building social capital.

#### **7.4.2 The We Act intervention theory**

From health promotion's perspective, the main findings of this study thus underline some of the weaknesses of focusing solely on involving children in the decision-making processes in the class, in line with Putnam (2000), without sufficient interactional and organisational support mechanisms in place at the school and class levels. Both in relation to the exclusion mechanisms for some children when working with health behaviours, but also in relation to children's limited agency in influencing bridging and linking social capital, norms of reciprocity and collective actions (Stjernqvist et al., 2018 - Paper III). This might contribute to an understanding of the negative effect found on 'sense of belonging in the school' as found in paper II while also shedding light on mechanisms that were found to affect social capital's dark side.

This redirects attention towards the perspectives offered by Coleman (1988) and Bourdieu (1986) with respect to how social capital is generated. For example, the need for teachers to pay extra attention to emphasising on the norms of respect and recognition within the closure of the school and classroom and by focusing more on including collaborations with parents, as highlighted by Coleman (1988). Bourdieu's (1986) more individualistic perspective on social capital and notion of interlinked forms of capitals and sociability, reminds us of not forgetting structures of inequalities within the school and classroom, where some children are more constrained than others regarding participation (in group work), being physically active or eating healthy food. Hence, more attention might be directed at the teachers' and school management's role in strengthening inclusive norms and involving parents more directly as emphasised by Coleman (1988). More attention might also be directed at teachers role in forming groups working with collective practices and thereby promoting children's social competences in line with Bourdieu's (1986) concept of sociability, to allow all children in

becoming capable of engaging as active citizens, as highlighted by Putnam (Morgan & Haglund, 2012).

Equally important, in relation to social capital building, are the organisational and structural mechanisms at the school level that can be used to create ties that embed participants in networks with advantageous structural properties (Cox, 2017). This seems to echo what Hanifan (1916) stated, a century ago, that social capital processes need skilled leadership to be directed towards the improvement of community well-being.

In the We Act intervention, organisational mechanisms were designed to be integrated into the school component with the set-up of a health committee aimed at supporting, especially, the action and change phase to move from the class to the school level. The low implementation fidelity regarding the parental component and school component, nonetheless, shows that this was somehow not functioning as intended. A HPS study applying the IVAC methodology also found the IVAC methodology challenging with respect to the change aspect (Carlsson & Simovska, 2012). Simovska and Carlsson (2012) furthermore highlighted efficient support from the management level as being central for the process to be sustainable. This stresses the need for more efficient mechanisms to support the action and change process where the pupils' health visions are intended to move from class level to the school level.

### **7.4.3 Methodological issues**

According to Yin (2014, p. 45), the criteria to judge the quality of all social science methods including case studies relate to construct validity, internal validity and reliability. Construct validity relates to 'the accuracy with which a case study's measures reflect the construct' (Yin, 2014, p. 238). The chosen indicators of the different types of social capital including bonding, bridging and linking social capital used similar operationalisations of the constructs in relation to the school setting (McGonigal et al., 2007). It was also used in Paper I, though Paper I did not include linking social capital. Norms of reciprocity were further included as an indicator of social capital in line with the study conducted by Rowe and Stewart (2009) to obtain a better understanding. Finally, collective actions were included not as an indicator of social capital but as an outcome related to social capital. The semi-structured moderator guide for the focus group interviews with the children, therefore, included descriptive as well as

evaluative questions relating to the selected outcomes and IVAC phases and the examples of questions included were: *How was it among the pupils? Were the adults paying more attention towards your input than normal? Did you work with some 'new' children? If so, how was that?* etc. The semi-structured teacher and three-tailed semi-structured interview guides for the school principals also included questions relating to the process and outcomes, though in limited numbers. It is considered possible that the limited number of questions from the teacher's interview guide and the school principal's interview guide might have contributed to the limited number of mechanisms found at the management level.

To increase construct validity, the study applied multiple sources of evidence that were triangulated. This allowed a more complex picture of the relationships to step forward and determine the consistency of the phenomenon across different cases (Yin, 2014). Yet, this was limited to the extent where the participants were talking about the same topics, as each guide was tailored according to specific participants and, therefore, did not include the exact same topics and questions. Additionally, the fewer questions on the topic of the relation between the process and outcome stated in the teacher and school principal interview guides made the children's accounts more visible in all the mechanisms.

Considering the internal validity, which concerns 'the strength of a case-effect link made by a case study, which is in part determined by showing the absence of spurious relationships and the rejection of rival hypothesis' (Yin, 2014, p. 239) a strength of this study is the use of the operationalisation of social capital as practices similar to Allan and Catts (2012, 2014). Hence, we did not consider changes in social capital *per se*, but focused on exploring the links between the IVAC methodology within the framework of the HPS and indicators of social capital. This was done by viewing social capital practices as mechanisms and analytically distinguishing between practices and assets or indicators (types of social capital) inspired by Baerenholdt and Aarsaether (2002).

The use of the preliminary developed logic model (Figure 3), which stated some proposed mechanisms at the school and class level is, moreover, considered a strength. With considerations for alternative interpretations, including Bourdieu's (1986) more individualistic perspective of social capital, which was reflected in the study design (e.g., two socio-economically different case schools), it was possible to explore alternative explanations.

With a focus on social capital practices and their effects, a possible limitation to the internal validity might be the existing social capital at class and school levels. A study on social capital mobilisation processes in adult populations by Eriksson et al. (2013) also highlight this limitation. Another possible limitation concerning internal validity is the low implementation fidelity to the action and change phase at school and class levels and the parental component. On one hand, it is likely that more organisational and interactional mechanisms at the school level could have occurred in this study if the implementation fidelity to the school component and parental component had been higher. On the other hand, the processes of social capital generation can be generated by different people in different places (Putnam & Feldstein, 2004). Within the school context different ways of approaching social capital generation has been explored e.g. through cultural interventions (Tsang, 2009), parental interventions targeting parents in the classroom (Bassani, 2008) and parent empowerment (Shoji et al., 2014) and the HPS approach (Rowe and Stewart, 2009;2011; Neely et al. 2016). At the macro level, different welfare state regimes<sup>9</sup> have also been found to influence the aggregated levels of different indicators of social capital in adult and adolescent populations (Buijs et al., 2016), which suggests that mechanisms for generating social capital are context specific. Hence, I consider it likely that the specific mechanisms which influence social capital in relation to the IVAC methodology within the HPS approach in the Scandinavian context to some extent will differ from that found in the Australian context using the HPS approach (Rowe and Stewart, 2009; Neely et al, 2016.).

With regards to reliability, which in the context of qualitative case studies relates to ‘the consistency and repeatability of the research procedures used in the case study’ (Yin, 2014, p. 240), this study considered this in terms of my overall study protocol and a specific data source. The study protocol explicated the background of the study, including research questions, the methods used and the overall abductive analysis strategy. Additionally, all data sources were imported in Nvivo into a separate file, distinct from the files of the data analysis in order to conduct a separate analysis, such as coding-matrixes interpretations etc., from the data sources.

---

<sup>9</sup> Differentiating between Social-democratic regime, Liberal regime, Conservative/Corporatist regime, Mediterranean regime and Post-socialist regime originating from Esping-Andersen’s (1990) three ‘ideal’ types (the social democratic, the liberal and conservative/corporatist type)

As mentioned in Paper I, the findings from qualitative studies are not generalizable to the same extent as the findings from quantitative studies, but they might be generalised analytically (Yin, 2014, p. 237). While the different social networks and attitudes towards these derived from the We Act are likely to be transient, the mechanisms that were found to interact with different types of social capital modelled within the project could, however, serve as examples that could guide future research (Cross et al., 2012). Finally, the low implementation fidelity, suggest that the mechanisms found in this study should be confirmed by more advanced longitudinal studies to ensure that the interpretations also hold true in other contexts.

## 8. Conclusion and Future Perspectives

Paper I found how three forms of child participation in everyday school situations in the school setting interrelated with different types of social capital. With adult-child directed participation interrelating with *both* bonding and bridging social capital contrary to child-child directed participation and adult-directed participation, the findings redirected attention towards a more action- and democratic-based pedagogy within the school setting that is in line with UN's convention of the rights of the child.

Paper II and Paper III focused on the HPS intervention, We Act, as an instrumental case on a participatory health educational process.

No effect of the We Act intervention was found on the items concerning horizontal social capital (bonding and bridging) and vertical social capital (linking social capital). A negative effect was found on the intervention on the item 'sense of belonging in the school' (Paper II). With a low implementation degree to the action and change phase and parental involvement, Paper II concluded that child participation in health education could affect children's sense of belonging, though without sufficient support, it could have a negative effect. Additionally, Paper II also concluded that more research was needed to confirm this.

Paper III resulted in a theoretical framework. This explicated different mechanisms, influencing the types of social capital and collective actions in the school setting at different levels and their interactions. Based on the findings, Paper III concluded that working with child participation through the IVAC methodology can influence different indicators of social capital and collective actions, though not without challenges. To sum it up, children face challenges in terms of influencing bridging and linking social capital, norms of reciprocity and collective actions without sufficient support mechanisms at school and class levels. The findings from Paper III might also contribute to an explanation of the negative effect found on 'sense of belonging in the school' in Paper II and shed light on mechanisms that were found to affect the dark side of social capital.

Therefore, this dissertation concludes that processes involving child participation interrelate with social capital indicators and social capital practices in the school setting. Without

sufficient interactional and organisational support mechanisms at the class and school level, such indicators are, however, not likely to be sustained and processes involving child participation may affect negatively on indicators of social capital.

### **8.1 Implications for Practice**

The findings from papers I and III hold several implications for practice relating to children's health and well-being in the school that can be used towards informing educational and pedagogical practice in the school context.

In everyday school situations, practices integrated into 'adult-child-directed' participation can be used as inspiration for teachers and pedagogues and the school management in terms of increasing their attention towards the relational aspects of their teaching or pedagogical practices in education. These relate to activities that take place outside of the classroom and educational practices that involve children in the decision-making processes and social interaction among children and teachers. These practices were found to evoke motivation among children and to add a fun element to the teaching along with providing opportunities to develop both bonding and bridging social capital. Such practices are similar to the teaching method, Education Outside the Classroom (EOtC), which has been associated with intrinsic motivation among pupils aged 9–13 years independent of gender and socio-economic status (Bølling et al., 2018). Simultaneously, teachers and pedagogues might also pay attention to the mechanisms integrated into child-directed and adult-directed forms of participation. Specifically, the tendency for adult-directed participation mostly occurs when having a teacher whom the children do not know very well, such as a substitute teacher, which in some cases created disruption and individual perceptions of not being heard. This points towards a strengthened focus on organisational (structural) mechanism and recognising that trusting relationship takes time to build.

In the context of a participatory health educational process, Paper III highlights several organisational and interactional mechanisms at class and school levels that can be used to direct practice and schools, within a Danish context, that aim to strive for building social capital – such as working across classes and the importance of giving the school children feedback on their processes and the progress of their works. Some potential pitfalls of

working with a participatory health educational process can also be used to guide practise. For instance, the need for teachers as well as the management to pay extra attention to emphasising norms of respect and recognition when working with health issues. This seems particularly important in less socially trusting classes. The importance of having efficient management support mechanisms, such as prioritising the work from the beginning and underlying the work with the parents, are, moreover, of significance importance in order to avoid the negative consequences concerning the children.

## **8.2 Implications for Research**

With respect to the theoretical model outlined in Paper I, future studies may proceed by looking more into the theoretical understanding of child participation in relation to social capital by focusing on different age groups and by looking more specifically at the gender and socioeconomic perspectives. Other studies have pointed out that practises of social capital are sensitive to age, gender and socio-economic status (Billett, 2011; Morgan & Haglund, 2012; Morrow, 2001). Future research might also consider including the teacher's perspective and exploring how teachers perceive child participation and social capital in the school setting and complement focus groups interviews with children with individual interviews.

The applied social capital measurement items used in Paper II followed previous operationalisations (De Clercq et al., 2016; De Clercq et al., 2014). Yet, the operationalisations hold some issues of sensitivity when being used in the context of an effect-study, where they tend to be positively skewed. This impact on the power of the study – and, therefore, a relatively huge and costly number of participants needs to be included. Future studies may proceed by critically scrutinising the existing HBSC validated items in terms of sensitivity or alternatively looking into other social capital items. Paiva et al. (2014) developed and validated a social capital item with 12 questions, which is directed at the school and neighbourhood for adolescents aged 12 years old, covering four factors (school cohesion, school friends, neighbourhood social cohesion and trust related to school/neighbourhood). This could be interesting for future studies to look into within a Danish context. Future studies may also reflect on the methods to analyse the aggregated class effect, which is more in line with the theoretical conceptualisation (Kawachi, 2010), though other social capital intervention studies, such as the one conducted by Pronyk et al. (2008) also analysed changes



in social capital at the individual level. Future studies may also proceed by paying specific attention to the study design in terms of designing a more perfect CRT controlled pre- and post-design, where the randomisation procedure at the cluster level is followed and where recruited schools are more equally represented and comparable at each level, as unbalanced data might lead to confounding.

Paper III pointed towards inefficient management support mechanisms and teacher support mechanisms in the We Act project, which, nonetheless, seemed particularly important in terms of influencing bridging and linking social capital, norms of reciprocity and collective actions. This stresses the importance of structural conditions at school and class levels. Future school-based social capital intervention studies may consider how to address the issue of structural conditions within the context of the HPS and IVAC methodology. For instance, by appointing an adult coordinator with management competences prior to the process (highlighted in Paper III) to hold on to the process within an existing network, such as the student council, and thereby, securing progress in the collective actions. Alternatively, future studies may also consider action groups, as highlighted by Fletcher and colleagues (2015), who found action groups involving students and staff (and a facilitator from the municipality) capable of taking actions on health and well-being issues by working successfully with a variety of students. Such an action group might be better for ensuring effective communication with the children and might also acquire a mandate to formulate broader HPS policies. Rowe and Stewart (2009) also found that the most significant mechanism promoting school connectedness at the school level was inclusive whole school activities, such as having a 'Market day'. Such activities were found to work as vehicles for interactions across all levels of the school community, including the participation of students of different abilities (Neely et al., 2016; Rowe & Stewart, 2009). This resonates with the findings by Putnam and Feldstein (2004, pp. 227) who found that 'smaller is better in forging and sustaining connections, while bigger is better for critical mass, power and diversity.' We Act was designed to allow for larger structural activities involving several school actors to take place as a part of the action and change phase, with support from the health committee, but as the process stopped when it reached the school level, no such activities were implemented. Future interventions may, therefore, consider the possibility of integrating inclusive activities involving the whole school community, including the parents more directly at the organisational school level.

Finally, a central point to consider for future studies is whether an intervention of six months is an adequate time frame for schools to conduct a broader change process, where the visions presented by the children are aimed to facilitate a broader change process within the school. Samdal (2017) argued that to address the motivation and role of the school principal, schools should state their commitment for implementing the HPS approach for at least three years. This is also in line with the findings from Paper I and other studies, like the one conducted by Weller (2007), which point out that trusting relationships take time to build.

## 9. References

- Albeck, C. K. (2007). Social kapital og sundhedsfremme i skolen. In P. Hegedahl & S. L. Rosenmeier (Eds.), *Social kapital i teori og praksis* (pp. 37–66). Frederiksberg C: Forlaget Samfundslitteratur.
- Ali, S., Ali, A., Khan, S. A., & Hussain, S. (2016). Sufficient Sample Size and Power in Multilevel Ordinal Logistic Regression Models. *Computational and Mathematical Methods in Medicine*, 2016, 1–9. <https://doi.org/10.1155/2016/7329158>
- Allan, J., & Catts, R. (2012). *Social Capital, Children and Young People - Implications for practise, policy and research*. (J. Allan & R. Catts, Eds.). Bristol: Policy Press.
- Allan, J., & Catts, R. (2014). Schools, Social Capital and Space. *Cambridge Journal of Education*, 44(2), 217–228.
- Allan, J., & Persson, E. (2016). Students' perspectives on raising achievement through inclusion in Essunga, Sweden. *Educational Review*, 68(1), 82–95.
- Alvesson, M., & Sköldberg, K. (2009). *Reflexive Methodology. New Vistas for Qualitative Research*. London: SAGE Publication.
- Andersen, S., Rod, M. H., Ersbøll, A. K., Stock, C., Johansen, C., Holmberg, T., ... Tolstrup, J. S. (2016). Effects of a settings-based intervention to promote student wellbeing and reduce smoking in vocational schools: A non-randomized controlled study. *Social Science and Medicine*, 161, 195–203.
- Antonovsky, A. (1996). The salutogenic model as a theory to guide health promotion. *Health Promotion International*, 11(1), 11–18. <https://doi.org/10.1093/heapro/11.1.11>
- Baerenholdt, J. O., & Aarsaether, N. (2002). Coping Strategies, Social Capital and Space. *European Urban and Regional Studies*, 9(2), 151–165.
- Baker, J. A., & Bridger, R. (1997). Schools as caring communities: A relational approach to school reform. *School Psychology Review*, 26(4), 1–17. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=aph&AN=168189&site=ehost-live%5Cnpapers2://publication/doi/Article>
- Bassani, C. (2007). Five Dimensions of Social Capital Theory as they Pertain to Youth Studies. *Journal of Youth Studies*, 10(1), 17–34.
- Bassani, C. (2008). Parent classroom involvement and the development of social capital : a reading program in East Vancouver, 8(2), 51–70.
- Battistich, V., Schaps, E., Watson, M., Solomon, D., & Lewis, C. (2000). Effects of the Child Development Project on students' drug use and other problem behaviors. *The Journal of Primary Prevention*, 21(1), 75–99.
- Battistich, V., Schaps, E., & Wilson, N. (2004). Effects of an elementary school intervention on students' "connectedness" to school and social adjustment during middle school. *Journal of Primary Prevention*, 24(3), 243–262.
- Bauer, D. J., & Sterba, S. K. (2011). Fitting Multilevel Models With Ordinal Outcomes: Performance of Alternative Specifications and Methods of Estimation. *Psychological Methods*, 16(4), 373–390. <https://doi.org/10.1037/a0025813>
- Baum, F. (1999). Social capital: is it good for your health? Issues for a public health agenda. *Journal of Epidemiology & Community Health*, 53(4), 195–196. <https://doi.org/10.1136/jech.53.4.195>
- Belzile, J. A., & Öberg, G. (2012). Where to begin? Grappling with how to use participant interaction in focus group design. *Qualitative Research*, 12(124), 459–472.

- Billett, P. (2011). *Youth social capital: getting on and getting ahead in life*, Doctor of Philosophy thesis. University of Wollongong.
- Bloor, M., Frankland, J., Thomas, M., & Robson, K. (2001). *Focus Groups in Social Research*. London: SAGE Publication.
- Bølling, M., Otte, C. R., Elsborg, P., Nielsen, G., & Bentsen, P. (2018). The association between education outside the classroom and students' school motivation: Results from a one-school-year quasi-experiment. *International Journal of Educational Research*.
- Bond, L., Patton, G., Glover, S., Carlin, J. B., Butler, H., & Thomas, L. (2004). The Gatehouse Project : can a multilevel school intervention, 997–1004.
- Bonde, A. H., Stjernqvist, N. W., Sabinsky, M., & Maindal, H. T. (2018). Low Implementation Fidelity to Actions in a Danish Health-Promoting School Intervention. *Manuscript Submitted for Publication*.
- Bourdieu, P. (1986). The Forms of Capital. In J. G. Richardson (Ed.), *Handbook of Theory and Research for the Sociology of Education* (pp. 241–161). New York: Greenwood Press.
- Bronfenbrenner, U., & Morris, P. A. (1998). The Ecology of Developmental Processes. In *Handbook of Child Psychology - Theoretical models of human development* (5th ed., pp. 993–1029). New York: John Wiley & Son, Inc.
- Bruselius-Jensen, M., Bonde, A. H., & Christensen, J. H. (2016). Promoting health literacy in the classroom. *Health Education Journal*. <https://doi.org/10.1177/0017896916653429>
- Bruselius-Jensen, M. L., Danielsen, D., & Viller Hansen, A. K. (2014). Pedometers and participatory school-based health education – an exploratory study. *Health Education, 114*(6), 487–500. Retrieved from <http://www.scopus.com/inward/record.url?eid=2-s2.0-84926364363&partnerID=40&md5=1a5be635882cbb711e3c621c9697c53a>
- Buijs, G. (2013). *SHE strategic plan 2013-2016*. Retrieved from [http://www.schools-for-health.eu/uploads/files/SHE Strategic plan 2013-2016\\_ FINAL.pdf](http://www.schools-for-health.eu/uploads/files/SHE Strategic plan 2013-2016_ FINAL.pdf)
- Buijs, T., Maes, L., Salonna, F., Van Damme, J., Hublet, A., Kebza, V., ... De Clercq, B. (2016). The role of community social capital in the relationship between socioeconomic status and adolescent life satisfaction: mediating or moderating? Evidence from Czech data. *International Journal for Equity in Health, 15*(1), 203.
- Bullen, P., & Onyx, J. (2000). Measuring Social Capital in Five Communities. *Journal of Applied Behavioral Science, 36*(1), 23–28.
- Button, B., Trites, S., & Janssen, I. (2013). Relations between the school physical environment and school social capital with student physical activity levels. *BMC Public Health, 13*(1), 1191.
- Carlsson, M., & Simovska, V. (2012). Exploring learning outcomes of school-based health promotion-a multiple case study. *Health Education Research, 27*(3), 437–447.
- Chapman, R. L., Buckley, L., Sheehan, M., & Shochet, I. (2013). School-Based Programs for Increasing Connectedness and Reducing Risk Behavior: A Systematic Review. *Educational Psychology Review, 25*(1), 95–114.
- Chilenski, S. M., Ang, P. M., Greenberg, M. T., Feinberg, M. E., & Spoth, R. (2014). The Impact of a Prevention Delivery System on Perceived Social Capital: The PROSPER Project. *Prevention Science, 15*(2), 125–137.
- Coffey, A., & Atkinson, P. (1996). *Making sense of qualitative data*. California: SAGE Publication.
- Coleman, J. (1990). *Foundations of social theory*. Cambridge: Harvard University Press.
- Coleman, J. S. (1988). Social Capital in the Creation of Human Capital. *American Journal of*

- Sociology*, 94(1988), 95–120.
- Cox, A. B. (2017). Cohorts, “Siblings,” and Mentors: Organizational Structures and the Creation of Social Capital. *Sociology of Education*, 90(1), 47–63.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16(3), 297–334.
- Cross, B., Allan, J., & McDonald, D. (2012). TWO Evaluating an inclusive education programme: lessons in transient social capital. In J. Allan & R. Catts (Eds.), *Social Capital, Children and Young People - Implications for practice, policy and research* (pp. 15–34). Bristol: Policy Press.
- Currie, C. E., Elton, R. A., Todd, J., & Platt, S. (1997). Indicators of socioeconomic status for adolescents: the WHO Health Behaviour in School-aged Children Survey. *Health Education Research*, 12(3), 385–397.
- Dahlgren, G., & Whitehead, M. (1991). *Policies and strategies to promote social equity in health Background document to WHO – Strategy paper. Working paper* (Vol. 14).
- De Clercq, B., Abel, T., Moor, I., Elgar, F. J., Lievens, J., Sioen, I., ... Deforche, B. (2016). Social inequality in adolescents' healthy food intake: the interplay between economic, social and cultural capital. *The European Journal of Public Health*, 27(2), 279–286.
- De Clercq, B., Pfoertner, T.-K., Elgar, F. J., Hublet, A., & Maes, L. (2014). Social capital and adolescent smoking in schools and communities: A cross-classified multilevel analysis. *Social Science & Medicine*, 119, 81–7.
- Diamond, K. E., & Hestenes, L. L. (1996). Preschool Children's Conceptions of Disabilities: The Salience of Disability in Children's Ideas About Others. *Topics in Early Childhood Special Education*, 16(4), 458–475. <https://doi.org/10.1177/027112149601600406>
- Dugleby, W. (2005). What about focus group interaction data? *Qualitative Health Research*, 15(6), 832–40.
- Emerson, R. M., Fretz, R. I., & Shaw, L. L. (2011). *Writing Ethnographic fieldnotes*. USA: The University of Chicago Press.
- Epstein, I., Stevens, B., McKeever, P., & Baruchel, S. (2006). Photo elicitation interview (PEI): Using photos to elicit children's perspectives. *International Journal of Qualitative Methods*, 5(3), 1–10.
- Eriksson, M. (2010). *Social Capital, Health and Community Action - Implications for Health promotion. Health (San Francisco)*.
- Eriksson, M. (2011). Social capital and health -implications for health promotion. *Global Health Action*, 4, 5611. <https://doi.org/10.3402/gha.v4i0.5611>
- Eriksson, M., Dahlgren, L., & Emmelin, M. (2013). Collective actors as driving forces for mobilizing social capital in a local community: what can be learned for health promotion? In K. Westlund, H. Kobayashi (Ed.), *Social capital and rural development in the knowledge society* (pp. 273–298). Cheltenham, UK: Edward Elgar Publishing.
- Ferguson, K. M. (2006). Social capital and children's wellbeing: A critical synthesis of the international social capital literature. *International Journal of Social Welfare*, 15(1), 2–18.
- Ferlander, S. (2007). The Importance of Different Forms of Social Capital for Health. *Acta Sociologica*, 50(2), 115–128.
- Field, A. (2014). *Discovering Statistics Using IBM SPSS Statistics*. London: SAGE Publication Ltd.
- Field, J. (2008). *Social capital*. New York: Routledge.
- Fletcher, A., Fitzgerald-Yau, N., Wiggins, M., Viner, R. M., & Bonell, C. (2015). Involving

- young people in changing their school environment to make it safer. *Health Education*, 115(3/4), 322–338.
- Franzini, L., Elliott, M. N., Cuccaro, P., Schuster, M., Gilliland, M. J., Grunbaum, J. A., ... Tortolero, S. R. (2009). Influences of physical and social neighborhood environments on children's physical activity and obesity. *American Journal of Public Health*, 99(2), 271–278. <https://doi.org/10.2105/AJPH.2007.128702>
- Frederiksen, M. (2013). Integration i "mixed methods" forskning: Metode eller design? *Metode & Forskningsdesign*, 1(1), 17–40.
- Fredriksen, M. (2015). Mixed Methods forskning. In *Kvalitative metoder* (pp. 197–217). Latvia: Hans Reitzels Forlag.
- Freire, P. (2000). *The Pedagogy of the Oppressed*. New York: Continuum.
- Glass, T. A., Freedman, M., Carlson, M. C., Hill, J., Frick, K. D., Ialongo, N., ... Fried, L. P. (2004). Experience Corps: Design of an Intergenerational Program to Boost Social Capital and Promote the Health of an Aging Society. *Journal of Urban Health*, 81(1), 94–105. <https://doi.org/10.1093/jurban/jth096>
- Granovetter, M. S. (1973). The Strength of Weak Ties. *American Journal of Sociology*, 78(6), 1360–1380.
- Green, J., & Tones, K. (2010). *Health Promotion. Planning and strategies* (2.). New York: Sage Publication.
- Green, S., & Hogan, D. (2012). *Researching children's experinces*. Cornwall: SAGE Publication Ltd.
- Griebler, U., Rojatz, D., Simovska, V., & Forster, R. (2014). Effects of student participation in school health promotion: a systematic review. *Health Promotion International*, 1–12.
- Gulløv, E., & Højlund, S. (2003). *Feltarbejde blandt børn*. København: Gyldendal Uddannelse.
- Halfon, N., & Hochstein, M. (2002). Life Course Health Development: An Integrated Framework for Developing Health, Policy, and Research. *The Milbank Quarterly*, 80(3), 433–479.
- Haliker, B. (2016). *Fokus grupper*. Viborg: Samfundslitteratur.
- Halkier, B. (2016). *Fokus grupper*. Frederiksberg C: Forlaget Samfundslitteratur.
- Hampshire, K. R., & Matthijsse, M. (2010). Can arts projects improve young people's wellbeing? A social capital approach. *Social Science & Medicine*, 71(4), 708–716.
- Hanifan, L. J. (1916). The Rural School Community Center. *The Annals of the American Academy of Political and Social Science*, 67, 130–138.
- Harpham, T., Grant, E., & Thomas, E. (2002). Measuring social capital within health surveys: key issues. *Health Policy and Planning*, 17(1), 106–111.
- Harris, J., & De Renzio, P. (1997). "Missing link" or analytically missing?: The concept of social capital. An introductory bibliographic essay. *Journal of International Development*, 9(7), 919–937. [https://doi.org/10.1002/\(SICI\)1099-1328\(199711\)9:7<919::AID-JID496>3.0.CO;2-9](https://doi.org/10.1002/(SICI)1099-1328(199711)9:7<919::AID-JID496>3.0.CO;2-9)
- Hart, R. A. (1992). Children's Participation: from Tokenism to Citizenship. Retrieved February 27, 2017, from [http://www.unicef-irc.org/publications/pdf/childrens\\_participation.pdf](http://www.unicef-irc.org/publications/pdf/childrens_participation.pdf)
- Hart, R. A. (1997). *Children's Participation - The Theory and Practise of Involving Young Citizens in Community Development and Environmental Care*. London: Earthscan Publications Limited.
- Hawe, P., & Shiell, A. (2000). Social capital and health promotion: a review. *Social Sciences and Medicine*, 51, 871–885.
- HBSC. (2014). *The Health Behaviour in School-aged Children study – World Health*

- Organization Collaborative Cross-national Survey. 2013/14 Internal protocol.*
- Heary, C. M. (2002). The Use of Focus Group Interviews in Pediatric Health Care Research. *Journal of Pediatric Psychology, 27*(1), 47–57.
- Hedeker, D. (2015). Methods for Multilevel Ordinal Data in Prevention Research Donald. *Prevention Science, 16*(7), 386–392. <https://doi.org/10.1038/nn.3945>.
- Holland, J. (2009). Young people and social capital - Uses and abuses? *Nordic Journal of Youth Research, 4*(331–350).
- Hooghe, M., & Stolle, D. (2003). *Generating Social Capital: Civil Society and Institutions in Comparative Perspective*. (M. Hooghe & D. Stolle, Eds.). New York: Palgrave macmillan.
- Hox, J. (2010). *Multilevel analysis: Techniques and application*. New York: Routledge.
- Institute of Medicine. (2004). *Children's Health, the Nations Wealth - Assessing and Improving Child Health*. Washington DC: National Academies Press.
- Islam, M. K., Merlo, J., Kawachi, I., Lindström, M., & Gerdtham, U.-G. (2006). Social capital and health: does egalitarianism matter? A literature review. *International Journal for Equity in Health, 5*, 3.
- Jack, G., & Jordan, B. (1999). Social capital and child welfare. *Children & Society, 13*(4), 242–256.
- Jamal, F., Fletcher, A., Harden, A., Wells, H., Thomas, J., & Bonell, C. (2013). The school environment and student health: a systematic review and meta-ethnography of qualitative research. *BMC Public Health, 13*(1), 798.
- James, A., & Prout, A. (1997). *Constructing and reconstructing childhood*. London: Falmer Press.
- Jenkins, R. (1982). Pierre Bourdieu and the reproduction of determinisk. *Sociology, 16*(2), 270–281.
- Jensen, B. B. (1997). A case of two paradigms within health education. *Health Education Research, 12*(4), 419–428.
- Jensen, B. B., & Simovska, V. (2005). Involving students in learning and health promotion processes-clarifying why? what? and how? *IUHPE - Promotion & Education, XII*(3–4), 150–156.
- Jørgensen, C. H. R. (2016). 'Peer social capital' and networks of migrants and minority ethnic youth in England and Spain. *British Journal of Sociology of Education, 1*–12.
- Kampmann, J. (2000). Børn som informanter og børneperspektiv. In J. Kampmann & P. S. Jørgensen (Eds.), *Børn som informanter*. København: Børnerådet.
- Kawachi, I. (2006). Commentary: Social capital and health: Making the connections one step at a time. *International Journal of Epidemiology, 35*(4), 989–993.
- Kawachi, I. (2010). The Relationship Between Health Assets, Social Capital and Cohesive Communities. In A. Morgan, E. Ziglio, & M. Davies (Eds.), *Health Assets in a Global Context: Theory, Methods, Action* (pp. 167–179).
- Kawachi, I., & Berkman, L. (2000). Social cohesion, social capital and health. In *Social Epidemiology*. New York: Oxford University Press.
- Kawachi, I., Kennedy, B. P., Lochner, K., & Prothrow-Stith, D. (1997). Social capital, income inequality, and mortality. *American Journal of Public Health, 87*(9), 1491–1498.
- Kawachi, I., Subramanian, S., & Kim, D. (2008). *Social Capital and Health. Social Capital and Health*. New York: Springer Science + Business Media.
- Kawachi, I., Takao, S., & Subramanian, S. V. (2013). Introduction. In I. Kawachi, S. V. Subramanian, & S. Takao (Eds.), *Global Perspectives on Social Capital and Health* (pp. 1–21). New York: Springer Science + Business Media.

- Kennedy, C., Kools, S., & Krueger, R. (2001). Methodological considerations in children's focus groups. *Nursing Research*, *50*(3), 184–187.
- Korin, M. R. (2016). Health Promotion for Children and Adolescents. In M. R. Korin (Ed.), *Health Promotion for Children and Adolescents* (pp. 3–9). New York: Springer.
- Langford, R., Bonell, C. P., Jones, H. E., Poulidou, T., Murphy, S. M., Waters, E., ... Campbell, R. (2014). *The WHO Health Promoting School framework for improving the health and well-being of students and their academic achievement. The Cochrane database of systematic reviews* (Vol. 4).
- Lee, A. (2012). Health-promoting Schools. *Applied Health Economics and Healthy Policy*, *7*(1), 11–17.
- Leonard, M. (2005). Children, Childhood and Social Capital: Exploring the Links. *Sociology*, *39*(4), 605–622.
- Lindström, M., Hanson, B. S., & Ostergren, P. O. (2001). Socioeconomic differences in leisure-time physical activity: the role of social participation and social capital in shaping health related behaviour. *Social Science & Medicine* (1982), *52*, 441–51.
- Llargues, E., Franco, R., Recasens, A., Nadal, A., Vila, M., Pérez, M. J., ... Castells, C. (2011). Assessment of a school-based intervention in eating habits and physical activity in school children: the AVall study. *Journal of Epidemiology and Community Health*, *65*(10), 896–901. <https://doi.org/10.1136/jech.2009.102319>
- Lochner, K., Kawachi, I., & Kennedy, B. P. (1999). Social capital: A guide to its measurement. *Health and Place*, *5*(4), 259–270.
- Lynch, J. (2000). Social capital - Is it a good investment strategy for public health? *Journal of Epidemiology & Community Health*, *54*(6), 404–408.
- Marmot, M., Atkinson, T., Bell, R., Black, C., Broadfoot, P., Cumberlege, J., ... Mulgan, G. (2010). *Fair society, healthy lives - The Marmot Review. Public Health*. London.
- Mauthner, M. (1997). Methodological Aspects of Collecting data from Children: Lessons from Three Research Projects. *Children and Society*, *11*(1), 16–28.
- McGonigal, J., Doherty, R., Allan, J., Mills, S., Catts, R., Redford, M., ... Buckley, C. (2007). Social capital, social inclusion and changing school contexts: A scottish perspective. *British Journal of Educational Studies*, *55*(1), 77–94.
- McPherson, K., Kerr, S., McGee, E., Morgan, A., Cheater, F. M., McLean, J., & Egan, J. (2014). The association between social capital and mental health and behavioural problems in children and adolescents: an integrative systematic review. *BMC Psychology*, *2*(1), 7.
- McPherson, K., Kerr, S., Morgan, A., McGee, E., Cheater, F. M., McLean, J., & Egan, J. (2013). The association between family and community social capital and health risk behaviours in young people: an integrative review. *BMC Public Health*, *13*, 971.
- Merwe, H. van der. (2015). Gaining social capital through classroom functioning. *South African Review of Sociology*, *46*(3), 82–98.
- Miles, M. B., & Huberman, M. A. (1994). *Qualitative Data Analysis*. California: SAGE Publication, Inc.
- Moore, S., & Kawachi, I. (2017). Twenty years of social capital and health research: a glossary. *Journal of Epidemiology and Community Health*, *71*(5), 513–517.
- Morgan, A. (2011). Social Capital as a Health Asset for Young people's Health and Wellbeing: Definitions, Measurement and Theory.
- Morgan, A., & Haglund, B. J. A. (2012). Researching social capital for young people's health. *Socialmedicinsk Tidskrift*, *89*(4–5), 441–567.
- Morgan, A., & Ziglio, E. (2007). Revitalising the evidence base for public health: An asset



- model. *Promotion & Education*, 14(Suppl 2), 17–22.
- Morgan, M., Gibbs, S., Maxwell, K., & Britten, N. (2002). Hearing children's voices: methodological issues in conducting focus groups with children aged 7–11 years. *Qualitative Research*, 2(1), 5–20.
- Morrow, V. (1999). Conceptualising social capital in relation to the well-being of children and young people: a critical review. *Sociological Review*, 47(4), 744–765.
- Morrow, V. (2001). *Networks and Neighbourhoods: Children's and Young People's Perspectives*.
- Morrow, V. (2005). Social Capital, Community Cohesion and Participation in England: A space for children and young people? *Journal of Social Sciences*, 9, 57–69.
- Morrow, V. (2006). Conceptualising social capital in relation to children and young people: is it different for girls? *Gender and Social Capital*, 127–150.
- Neely, E., Walton, M., & Stephens, C. (2016). Food practices and school connectedness: a whole-school approach. *Health Education*, 116(3), 320–340.
- Nielsen, L., Koushede, V., Vinther-Larsen, M., Bendtsen, P., Ersbøll, A. K., Due, P., & Holstein, B. E. (2015). Does school social capital modify socioeconomic inequality in mental health? A multi-level analysis in Danish schools. *Social Science & Medicine*, 140, 35–43.
- Nielsen, L., Meilstrup, C., Nelausen, M. K., Koushede, V., & Holstein, B. E. (2015). Promotion of social and emotional competence. *Health Education*, 115(3/4), 339–356.
- Ottebjer, L. (2005). Bourdieu, Coleman and Putnam on Social Capital, 11–14.
- Paiva, P. C. P., de Paiva, H. N., de Oliveira Filho, P. M., Lamounier, J. A., Ferreira e Ferreira, E., Ferreira, R. C., ... Zarzar, P. M. (2014). Development and validation of a social capital questionnaire for adolescent students (SCQ-AS). *PloS One*, 9(8), e103785.
- Patton, G. C., Sawyer, S. M., Santelli, J. S., Ross, D. A., Afifi, R., Allen, N. B., ... Viner, R. M. (2016). Our future: a Lancet commission on adolescent health and wellbeing. *Lancet (London, England)*, 387(10036), 2423–2478.
- Portes, A. (1998). Social Capital: Its Origins and Applications in Modern Sociology. *Annual Review of Sociology*, 24(1), 1–24.
- Pronyk, P. M., Harpham, T., Busza, J., Phetla, G., Morison, L. A., Hargreaves, J. R., ... Porter, J. D. (2008). Can social capital be intentionally generated? A randomized trial from rural South Africa. *Social Science & Medicine*, 67(10), 1559–1570.
- Puolakka, K., Haapasalo-Pesu, K.-M. K.-M., Konu, A., Åstedt-Kurki, P., Paavilainen, E., Åstedt-Kurki, P., & Paavilainen, E. (2014). Mental Health Promotion in a School Community by Using the Results From the Well-Being Profile: An Action Research Project. *Health Promotion Practice*, 15(1), 44–54.
- Putnam, R. (1996). Who killed Civic America? *Prospect*, 7(24), 66–72.
- Putnam, R. (2000). *Bowling alone: The Collapse and Revival of American Community*. New York: Simon & Schuster Paperbacks.
- Putnam, R. D. (1993). *Making Democracy Work: civic traditions in modern Italy*. Princeton, NJ: Princeton University Press.
- Putnam, R. D., & Feldstein, L. M. (2004). *Better Together - Restoring the American Community*. New York, NY: Simon & Schuster Paperbacks.
- Raymond-Flesch, M., Auerswald, C., McGlone, L., Comfort, M., & Minnis, A. (2017). Building social capital to promote adolescent wellbeing: a qualitative study with teens in a Latino agricultural community. *BMC Public Health*, 17(1), 1–9.
- Richmond, T. K., Milliren, C., Walls, C. E., & Kawachi, I. (2014). School Social Capital and Body Mass Index in the National Longitudinal Study of Adolescent Health. *Journal of School*

- Health*, 84(12), 759–768.
- Ringsmose, C., & Krag-Müller, G. (2017). How Positive Childhood Experiences Promote Children’s Development of Democratic Skills in Denmark. In C. Ringsmose & G. Krag-Müller (Eds.), *Nordic Social Pedagogical Approach to Early Years* (pp. 189–205). Switzerland: Springer.
- Roberts, C., Freeman, J., Samdal, O., Schnohr, C. W., Looze, M. E., Nic Gabhainn, S., ... the International HBSC Study Group. (2009). The Health Behaviour in School-aged Children (HBSC) study: Methodological developments and current tensions. *International Journal of Public Health*, 54, 140–150.
- Rowe, F., & Stewart, D. (2009). Promoting connectedness through whole school approaches: a qualitative study. *Health Education*, 109(5), 396–413.
- Rowe, F., & Stewart, D. (2011). Promoting connectedness through whole school approaches: Key elements and pathways of influence. *Health Education*, 111(1), 49–65.
- Rowe, F., Stewart, D., & Patterson, C. (2007). Promoting school connectedness through whole school approaches. *Health Education*, 107(6), 524–542.
- Ruge, D., Nielsen, M. K., Mikkelsen, B. E., & Bruun-Jensen, B. (2014). Examining participation in relation to students’ development of health-related action competence in a school food setting LOMA case study.
- Sabinsky, M., Bonde, A. H., Stjernqvist, N. W., Jessen-Klixbüll, E., Maindal, H. T., & Tetens, I. (n.d.). The “We Act”-study: Design of a multicomponent intervention to promote healthy diet, physical activity, and well-being in school children. *Journal of Food and Nutrition Research*.
- Samdal, O. (2017). School Health Promotion. In S. . Quah & W. C. Cockerham (Eds.), *The International Encyclopedia of Public Health* (Vol. 6, pp. 439–446). Oxford: Academic Press. <https://doi.org/10.1177/10253823020090010134>
- Sancassiani, F., Pintus, E., Holte, A., Paulus, P., Moro, M. F., Cossu, G., ... Lindert, J. (2015). Enhancing the Emotional and Social Skills of the Youth to Promote their Wellbeing and Positive Development: A Systematic Review of Universal School-based Randomized Controlled Trials. *Clinical Practice and Epidemiology in Mental Health : CP & EMH*, 11(Suppl 1 M2), 21–40.
- Santi, M., & Di Masi, D. (2014). Pedagogies to Develop Children’s Agency in Schools. In C. S. Hart, M. Biggeri, & B. Babic (Eds.), *Agency and participaiton in Childhood and Youth: International Applicaitons of the Capability Approach in Schools and Beyond*. London: Bloomsburry.
- Schaefer-McDaniel, N. (2004). Conceptualizing Social Capital among Young People. *Children, Youth and Environments*, 14(1), 140–150.
- Senn, S. (2006). Change from baseline and analysis of covariance revisited. *Statistics in Medicine*, 25, 4334–4344. <https://doi.org/10.1002/sim>
- Shoji, M. N., Haskins, A. R., Rangel, D. E., & Sorensen, K. N. (2014). The emergence of social capital in low-income Latino elementary schools. *Early Childhood Research Quarterly*, 29(4), 600–613.
- Simovska, V. (2004). Student participation: A democratic education perspective - experience from the health-promoting schools in Macedonia. *Health Education Research*, 19(2), 198–207.
- Simovska, V. (2012). Healthy eating and physical activity in schools in Europe: A toolkit for policy development and its implementation. *Health Education*, 112(6), 513–524.
- Simovska, V., & Carlsson, M. (2012). Health promoting changes with children as agents:

- findings from a multiple case study research. *Health Education*, 112(3), 292–304.
- Simovska, V., & Jensen, B. B. (2009). *Conceptualizing participation – the health of children and young people*. Copenhagen Ø.
- Skolestyrelsen. (2011). *Den socioøkonomiske reference for resultaterne af de nationale test - En vejledning til skoleledere og kommuner*. Retrieved from [www.skolestyrelsen.dk](http://www.skolestyrelsen.dk)
- Smiley, W., Leighton, E., Ene, M., & Bell, B. A. (2015). *An intermediate Guide to Estimating Multilevel Models for Categorical Data using SAS® PROC GLIMMIX*. Retrieved from <http://analytics.ncsu.edu/sesug/2015/SD-173.pdf>
- Smyth, G., MacBride, G., Paton, G., & Sheridan, N. (2012). THREE Inclusion of pupils from refugee families. In J. Allan & R. Catts (Eds.), *Social Capital, Children and Young People - Implications for practice, policy and research* (pp. 35–52). Bristol: Policy Press.
- Snijders, T., & Bosker, R. (1999). *Multilevel analysis, an introduction to basic and advanced modeling*. London: SAGE Publications.
- Song, L. (2013). Social Capital and Health. In W. C. Cockerham (Ed.), *Medical Sociology on the Move - New Directions in Theory*. New York: Springer Science & Business Media.
- Spradley, J. P. (1980). *Participant Observation*. USA: Cengage Learning, Inc.
- Stake, R. (2006). *Multiple Case Study Analysis*. New York: The Guilford Press.
- Stevens, P. E. (1996). Focus groups: collecting aggregate-level data to understand community health phenomena. *Public Health Nursing*, 13(3), 170–176.
- Stjernqvist, N. W., Bonde, A. H., Trolle, E., Sabinsky, M., & Maindal, H. T. (2018). Children's agency in building social capital and collective actions. *Manuscript Submitted for Publication*.
- Stjernqvist, N. W., Sabinsky, M., Morgan, A., Trolle, E., Thyregod, C., Maindal, H. T., ... Tetens, I. (n.d.). Building school-based social capital through "We Act - Together for Health" - a quasi-experimental study. *BMC Public Health*.
- Stjernqvist, N. W., Thualagant, N., Tetens, I., & Maindal, H. T. (2018). The development of social capital in the school setting through children's genuine participation. *Manuscript Submitted for Publication*.
- Stolle, D. (2003). The Source of Social Capital. In *Generating Social Capital - Civil society and institutions in comparative perspective* (pp. 19–37). New York: Palgrave macmillan.
- Sun, J., & Stewart, D. (2007). How effective is the health-promoting school approach in building social capital in primary schools? *Health Education*, 107(6), 556–574.
- Svensden, G. (2001). Hvad er social kapital? *Dansk Sociologi*, 49–61. Retrieved from <http://rauli.cbs.dk/index.php/danksociologi/article/viewArticle/638>
- Svensson, L. (2002). Interaktiv forskning—för utveckling av teori och praktik. *ARBETSLIV I OMVANDLING*, 7, 1–23.
- Szreter, S., & Woolcock, M. (2004). Health by association? Social capital, social theory, and the political economy of public health. *International Journal of Epidemiology*, 33(4), 650–667.
- Thornton, T., & Leahy, J. (2012). Changes in Social Capital and Networks: A Study of Community-Based Environmental Management Through a School-Centered Research Program. *Journal of Science Education and Technology*, 21(1), 167–182.
- Tsang, K.-K. (2009). School Social Capital and School Effectiveness. *Education Journal*, 37(1–2), 119–136.
- Vieno, A., Perkins, D. D., Smith, T. M., & Santinello, M. (2005). Democratic school climate and sense of community in school: A multilevel analysis. *American Journal of Community Psychology*, 36(3–4), 327–341.

- Viner, R. M., Ozer, E. M., Denny, S., Marmot, M., Resnick, M., Fatusi, A., & Currie, C. (2012). Adolescence and the social determinants of health. *The Lancet*, 379, 1641–1652.
- Virtanen, M., Ervasti, J., Oksanen, T., Kivimäki, M., & Vahtera, J. (2013). Social Capital in Schools. In I. Kawachi, S. V. Subramanian, & S. Takao (Eds.), *Global Perspectives on Social Capital and Health*. New York: Springer Science + Business Media.
- Vyncke, V., De Clercq, B., Stevens, V., Costongs, C., Barbareschi, G., Jónsson, S. H., ... Maes, L. (2013). Does neighbourhood social capital aid in levelling the social gradient in the health and well-being of children and adolescents? A literature review. *BMC Public Health*, 13(1), 65. <https://doi.org/10.1186/1471-2458-13-65>
- Welch, R. W., Antoine, J. M., Berta, J. L., Bub, A., de Vries, J., Guarner, F., ... Woodside, J. V. (2011). Guidelines for the design, conduct and reporting of human intervention studies to evaluate the health benefits of foods. *Br J Nutr*, 106 Suppl, S3-15. <https://doi.org/10.1017/s0007114511003606>
- Weller, S. (2006). Skateboarding Alone? Making Social Capital Discourse Relevant to Teenagers' Lives. *Journal of Youth Studies*, 9(5), 557–574.
- Weller, S. (2007). "Sticking with your mates?" Children's friendship trajectories during the transition from primary to secondary school. *Children and Society*, 21(5), 339–351.
- WHO. (1986). *Ottawa Charter for Health Promotion*.
- WHO. (2007). *Social cohesion for mental well-being among adolescents*. Copenhagen Ø.
- WHO. (2013). *Health 2020: A European Policy Framework and Strategy for the 21st Century*. Copenhagen Ø.
- WHO, Europe, W., & WHO. (2014). *Investing in children : the European child and adolescent health strategy*. Copenhagen.
- Woodward, M. (1999). *Epidemiology Study Design and Data Analysis*. U.S: Chapman & Hall/CRC.
- Woolcock, M. (1998). Social capital and economic development: Toward a theoretical synthesis and policy framework. *Theory and Society*, 27(2), 151–208.
- Woolcock, M. (2001). The place of social capital in understanding social and economic outcomes. *Canadian Journal of Policy Research*, 2(2000), 1–35.
- Yin, R. K. (2014). *Case Study Research - Design and Methods*. London: SAGE Publication, Inc.

## Appendix A

### Moderator guide for the focus group interviews with children (May-June 2016)

Introduktion		
Spørgsmål til eleverne/værktøj	Uddybning/hjælpe spørgsmål	Tid
<p>Moderatoren fortæller i et langsomt, roligt og venligt toneleje.</p> <p>Jeg hedder ... og I kender jo mig, og jeg hedder... og arbejder på noget der hedder Steno hvor vi har fokus på hvad børns synes om sådan et projekt som 'We Act' ..</p> <p>Vi er rigtig glade for, at I har lyst til at gøre os klogere på, hvordan I oplever det at være med i 'We Act' projektet og hvordan I oplever det, at kunne komme med ideer og få medbestemmelse her på skolen.</p> <p>Da I er eksperter på, hvordan det har været at arbejde med 'We Act', er det Jer som skal lærer os noget. Så det er ikke ligesom en almindelig time, hvor de voksne forsøger at lærer jer noget.</p> <p>Vi har taget nogle lege med som vi skal snakke om. Det er mest jer der skal snakke sammen, og det kommer til at tage maks 1 time</p> <p>For at vi kan huske det der bliver sagt, vil vi gerne optage det I siger på bånd. Vi fortæller <u>ikke</u> det der bliver sagt her på båndet til nogen (lærer, forældre eller andre børn)</p> <p>Vi har skrevet nogle regler op på tavlen:</p> <ul style="list-style-type: none"> <li>- Alle skal have lov at sige noget</li> <li>- Der er ingen rigtige eller forkerte svar, I er jo eksperter</li> <li>- Tal én person afgangen, men man behøver ikke række hånden op</li> </ul>	<p>Har I spørgsmål til det vi lige har sagt?</p>	<p>3 min</p>
<p><b>Øvelse 1</b></p> <p>Vi starter med en lille leg, som går ud på, at man kaster en bold og når man så modtager bolden skal sige hvad man hedder også give et eksempel på hvornår det er surt eller sjovt at gå skole. Så hvis jeg starter jeg hedder Nanna og synes det er sjovt at gå i skole når vi spiller dødbold i frikvarterne</p>	<p>Hvorfor er det sjovt?</p> <p>Hvorfor er det surt?</p>	<p>3 min</p>

Elevdeltagelse på skolen og det sociale miljø og sociale relationer		
Spørgsmål til børnene	Uddybning/hjælpe spørgsmål	tid
<p><u>Øvelse 2</u> Vi prøver at blive klogere på, hvordan I oplever det, at kunne komme med ideer og være med til at bestemme her på skolen. Så har vi taget nogle billeder med.</p> <p>Minder de jer om noget, I selv har oplevet i skolen?</p> <p>Prøv at placer billederne efter, hvor I tænker at børnene kommer med ideer og bestemmer mest og hvor I tænker, at det er de voksne, som kommer med ideer og bestemmer mest?</p>	<p>Har I eksempler på det?</p> <p>Prøv at uddyb, hvorfor den er over den?</p>	5 min.
<p><u>Øvelse 2.1</u> Så går vi videre til at tale om jeres skole og hvad I synes om at være på skolen.</p> <p>Har I et yndlingssted på skolen? Hvorfor er det et godt sted?</p> <p>Hvordan har I det med hinanden klassen?</p> <p>Hvordan har I det med de andre børn på skolen?</p> <p>Hvordan indgår de sociale medier i skolen?</p>	<p>Prøv at komme med et eksempel på det?</p> <p>Prøv at give et eksempel?</p> <p>Prøv at give et eksempel?</p>	5 min.
<p><u>Øvelse 2.2</u> <u>Hvor synes I så, at det billede hvor de voksne bestemmer mest hører til på kortet? Man må gerne være uenig</u></p> <p>Kan I prøve at give nogle eksempler på, hvorfor billedet passer der?</p> <p>Hvordan oplever I det, når de voksne bestemmer?</p> <p>Opleves det fair? Hvorfor? /Hvorfor ikke?</p> <p>Hvordan hjælper de voksne jer?</p>	<p>Prøv at give et eksempel</p> <p>Hvorfor? /Hvorfor ikke?</p> <p>Prøv at give et eksempel</p> <p>Prøv at give et eksempel</p>	5 min.

<p><b>Hvis vi så kigger på det billede hvor det er <u>eleverne der kommer med ideer og bestemmer</u>, kan I prøve at give nogle eksempler på hvorfor billedet passer der?</b></p>		
<p><b>Hvordan oplever I det, når børnene bestemmer?</b></p>	<p>Prøv at give et eksempel</p>	
<p><b>Opleves det fair? Hvorfor? /Hvorfor ikke?</b></p>		
<p><b>Når det så er børnene der bestemmer, er der så nogle elever der bestemmer mere end andre?</b></p>	<p>Prøv at give et eksempel</p>	
<p><b>Hvordan har I det så hinanden?</b></p>	<p>Prøv at give et eksempel</p>	<p>5</p>
<p><b>Hjælper man hinanden? Hvis ja hvordan?</b></p>	<p>Prøv at give et eksempel</p>	<p>min</p>

Elevdeltagelse i We Act og det social miljø og sociale relationer		
Spørgsmål til børnene	Uddybning	Tid
<p><b>Øvelse 3</b> Så går vi videre til 'We Act' projektet.</p> <p>Hvordan hørte I om 'We – Act' projektet?</p> <p>Hvem bestemte, at I skulle arbejde med 'We Act'?</p>	<p>Hvorfor tror I, at I skulle arbejde med 'We Act'?</p>	3 min
<p><b>IMOVE og IEAT</b> Hvis vi starter med IMOVE kan I så komme med nogle eksempler på aktiviteter, som I lavede og hvordan det var, at arbejde med skridt tal?</p> <p>Hvis vi så går videre til IEAT, kan I så komme med nogle eksempler på aktiviteter, som I lavede og hvordan det var, at registrerer mad vaner i logbogen?</p> <p>Hvilken smiley beskriver bedst jeres oplevelser med IMOVE og IEAT, hvis vi starter med IMOVE? Man må gerne være uenig</p>	<p>Var de voksne mere lyttende og over for jeres input? Fx fik I lov til selv at lave grupper? Prøv at forklar, hvordan gruppearbejdet gik?</p> <p>Hvordan var det mellem eleverne?</p> <p>Sammenlignede I jer? Hvordan oplevede I det?</p> <p>Turde man diskutere sine tal/noter højt i klassen?</p> <p>Prøv at uddybe?</p>	5 min
<p><b>Visionsværkstedet</b> Hvordan var det at arbejde med visioner, til hvordan det kunne blive sjovere og sundere at være elev på skolen?</p> <p>Hvad var jeres visioner?</p> <p>Hvordan kom I på ideen?</p> <p>Hvilken smiley synes I bedst beskriver jeres oplevelse med visionsværkstedet?</p> <p><b>Handlings- &amp; forandringsfasen</b> Har I arbejdet videre med visionerne og hvordan var det?</p> <p>Hvad med smiley?</p> <p>Hvilke billede synes I så beskriver hhv. IMOVE og IEAT?, Visionsarbejdet og jeres videre arbejde med visionerne?</p>	<p>Hvordan valgte I emne og grupper?</p> <p>Arbejdede I sammen med nogle I ikke plejer og hvordan var det?</p> <p>Mindede det om "almindeligt" gruppearbejde? Og var alle lige engagerede i gruppen?</p> <p>Lyttede de voksne til jeres ideer?</p> <p>Hjalp de voksne/lærerne jer med at få indflydelse?</p> <p>Hvordan var det at fremlægge jeres visioner?</p> <p>Hvordan var det at skulle stemme om visionerne? Opleves det fair?</p> <p>Prøv at uddybe?</p> <p>Var de voksne mere åbne nu end tidligere i projektet?</p>	15 min



	<p>Var det alle der arbejdede videre med visionerne?</p> <p>Lærte i nye børn eller voksne at kende?</p>	
--	---	--

<p><b>Øvelse 4</b></p> <p>Hvis I havde frem til juleferien til at arbejde med jeres visioner om en bedre og sundere skole, hvad tænker I så er de tre vigtigste ting i forhold til at opnå jeres mål=vision?</p> <p>Tror I, at We Act kan ændre på skole elever sundhed og trivsel?</p>	<p>Her til sidst er der så noget vi mangler at få med?</p>	<p>5 min</p>
---	--	--------------

## Materiale

### Øvelse 1 Billeder over deltagelsesformer



Billed 4

Billed 3

Billed 2

Billed 1

### Øvelse 2. Eksempel på skolebygning

### Øvelse 3



## Øvelse 4

### Sætninger

1. Eleverne står sammen (sense of belonging)
2. Gode venner i klassen (Social networks)
3. Gode venner med de voksne (Social Networks)
4. Forældrene pakker op om ideen (social networks)
5. Har mange venner (social networks)
6. Tillid til de voksne (Trust)
7. Tillid til klassekammeraterne (Trust)
8. Lærerne og skoleledelsen lytter til eleverne (Autonomy and control)
9. Eleverne lytter til eleverne (Autonomy and control)
10. At man opfører sig ordentligt (Reciprocity)
11. Behandler hinanden godt på skolen (Reciprocity)
12. Føle at man hører til på skolen (sense of Belonging)
13. God i skolen
14. Skolen er ny renoveret
15. Få elever i klassen
16. Ikke driller de andre
17. Brænder for noget
18. Har mange penge
19. Kender nogen der har penge og magt
20. Lærer meget i skolen

## Appendix B

### We Act Interview Guide – Teachers (02.06.2016)

#### Formål med interview-undersøgelsen<sup>10</sup>

Formålet er at skabe viden/empiri/data der skal indgå i en videnskabelig artikel om skolernes implementering af We Act og bidrage til evaluering/justering af We Act undervisningsmaterialer. Følgende skal belyses

- Hvordan lærerne førte We Act ud i livet, om de fulgte eller afveg fra de trin, der er beskevet i lærervejledninger (hvordan og hvorfor). Dvs. vurdere graden af "implementation fidelity".
- Hvordan idegrundlaget for We Act (The "spirit") er blevet ført ud i livet (kvaliteten) intervention (Quality)
- Eleverns læringsudbytte (sundhedskompetence, dansk/mat/nat-tek) og udbyttet for skolen/sunde rammer

#### Intro til lærerinterviews

Først vil jeg sige tusind tak for dit arbejde med at få afprøvet og gennemført WeAct forløbet, og tak fordi du tager dig tid til at hjælpe os gennem dette her interview.

Jeg har taget min kollega Dina med, som ikke har været med i udviklingen og udførelsen af dette projekt, men har stor erfaring med sundhedsfremme på skoler. Dina er med for at få et nyt og lidt udenforstående blik på projektet.

#### Anerkendelse, respekt og behov for deres bidrag

Vi har stor respekt for det arbejde du og dine kolleger laver og vi ved, at det sikkert nogle gange er et pres at skulle deltage i projekter som dette. Vi er samtidig også nødt til at udvikle materialer i samarbejde med lærerne, fordi hvis ikke materialerne fungerer for lærerne, så bliver de ikke brugt.

Derfor er formålet med interviewet, at få dit indspil til hvordan WeAct forløbet og materialerne evt. skal justeres til senere brug for andre skoler.

#### Frivillighed og tilladelse til at optage interviewet

---

<sup>10</sup> Formålet er ens for lærer- og skoleleder-interviews. Selve guiden er lidt forskellig.

Jeg har skrevet, at det er frivilligt at deltage, og vil spørge om vi må optage. Det vil blive behandlet fortroligt. Dvs. at det bliver anonymiseret og udelukkende brugt til vores analyser og evalueringsarbejde. *(og så tænde lydoptageren)*. Interviewet varer max 40 minutter.

Vores spørgsmål falder i tre temaer (dvs. ti minutter til hvert tema).

- Vi vil spørge ind til processen og hvordan du har brugt materialerne,
- Vi vil forsøge at få en forståelse af, hvordan projektets idegrundlag (sundhed integreret i undervisningen, det brede sundhedsbegreb og elevdeltagelse) har slået igennem hos dig som lærer og i din måde at bruge materialerne.
- til sidst vil vi spørge lidt ind til hvordan du oplever elevernes udbytte af We Act forløbet

Vigtigt at være kritisk

Det er vigtigt at sige, at kritik er ligeså godt som positive kommentarer. Du skal ikke tænke på at være høflig. Og det er alle typer af kritik, vi er interesserede i at kende til, for som sagt, har vi brug for at vide, hvad der skal justeres, eller om der er andre forhold som vi skal have med i vores overvejelser. Vi skal ikke diskutere. Jeg skal lytte og du fortæller.

## Proces og materialer

- Hvordan har du oplevet processen med hele We Act forløbet?  
(vi har en A4 side med IVAC-modellen med, der ligger på bordet)
- Hvordan brugte du materialerne (de tre lærervejledninger og elevmaterialet)?
- Hvilke var særligt gode/dårlige - hvorfor?
- Kan du uddybe/give eksempler?
- Hvad tænker du om arbejdet med visionsværkstedet som metode og med at skulle føre nogen ting ud i livet med det vi har kaldt "prøvehandlinger". (Action & Change fase på klasse- og skoleniveau).
- Hvordan synes du det har levet op til læringsmålene for dansk/matematik og sundhed?  
(Slå op på sidste side i We Act intro-pjecen)

## We Act projektets idegrundlag

- Hvad du tænker om at **integrere sundhedsundervisning** i dansk og matematik - eller andre fag?
- Hvordan gør I normalt for at integrere emnet "Familiekundskab, Sundheds- og Seksualundervisning"?
- Hvad er det for en **sundhedsforståelse** eleverne lærer om igennem We Act-forløbet?
- Kan du uddybe/give eksempler? (det brede positive sundhedsbegreb)

We Act forløbets idé bygger på elevdeltagelse og demokratisk og anerkendende sundhedsundervisning.

- Hvad tænker du om det?
- Kan du uddybe/give eksempler?

## Udbytte af We Act forløbet for eleverne (Pupils' learning outcome)

Et af formålene med We Act er at udvikle sundhedskompetencer og handlekompetencer hos eleverne.

- Hvad du tænker du om det?

Et andet formål er at påvirke rammerne for sundhed på skolen.

- Hvad du tænker du om det?
- Vi spørger uddybende til det de ikke nævner/ikke taler så meget om,
- Har den elevinvolverende arbejdsform påvirket de sociale relationer i klassen?  
Mellem eleverne og mellem eleverne og dig på nogen positiv eller negativ måde?
- Hvis ja, hvordan?

Afsluttende spørgsmål:

- Hvordan har det påvirket, at forskerne var til stede i undervisningen?
  - Kan du uddybe/give eksempler?
- Kan et projekt som dette bidrage til at fremme sundhed på skolen?
- Er der noget andet du vil sige, noget vi har glemt at spørge om?

## Appendix C

### Interview Guide School managers (05.01.2016)

#### Formål

Dels at få indblik i elevernes socioøkonomiske status og sammensætningen. Dette er tiltænkt i forhold til, at jeg metodisk gerne vil have et kendskab til, hvordan lederne beskriver skolerne ud fra en socioøkonomisk betragtning – er det en skole med mange ressourcer, som eksempelvis ligger over kommunegennemsnittet, og som i symbolsk forstand opfattes som ressourcestærk eller er det en skole der i symbolsk forstand opfattes som resourcesvag, og som i sammenligning med kommunegennemsnittet ligger under (samt muligvis bruge dette til at selekere to cases der adskiller sig mest på denne baggrund, da jeg tilstræber at få to skoler som repræsenterer størst mulig socioøkonomisk variation i elevsammensætningen).

Derudover i forhold til, at få et indblik i, hvordan skolen før interventionen har arbejdet med sundhed og sundhedsfremme for børnene.

#### Introduktion af mig og rammen for interviewet

Jeg er som sagt ph.d. studerende indskrevet ved Danmarks tekniske Universitet, Fødevarerinstitutionen og Steno sundhedsfremme forskningscenter på projektet We Act Sammen om sundhed. For lige at fortælle dig lidt kort om min del af projektet, så er min ph.d. jo en del af det større skole sundhedsfremme projekt – We Act – Sammen om sundhed, hvor jeg specifikt undersøger, hvordan børn og unge indgår i elevinvolverende demokratiske sundhedsfremme processer, som igangsættes i klassen. Som led i dette, er jeg meget interesseret i, at høre dine erfaringer som skoleleder. Som aftalt kommer interviewet til at tage omkring mellem 30-45 minutter, hvor jeg stiller nogle spørgsmål og du fortæller. Ja, så inden vi går i gang vil jeg høre om du har nogle opklarende spørgsmål, også i forhold til det jeg skrev omkring at interviewet er anonymt og vil blive behandlet fortroligt?

#### Introduktionsspørgsmål og kontekst

- Indledningsvis kunne jeg godt tænke mig at spørge lidt ind til din baggrund som skoleleder her på skole ift. hvor lang tid har du været skoleleder og hvordan er det, at arbejde som skoleleder her på skolen?

### Elevsammensætning i en historisk kontekst

- Hvis vi så går lidt videre til at snakke om eleverne her på skolen, hvordan vil du så beskrive de elever der går på skolen?

#### Hjælpe spørgsmål

- Hvilke baggrunde kommer eleverne med?
- Familietyper, boligforhold, kulturelle baggrund, sociale baggrund
- Hvordan vil du karakterisere skolen ift. det kommunale gennemsnit?
- Har eleverne og deres baggrund ændret sig over tid?
- Hvordan er forholdet mellem elever i indskoling, mellemskole og udskoling?

### Skolens sociale kultur (på skole niveau)

- Hvordan vil du helt overordnet beskrive jeres skole? (hjælpe spørgsmål nu ved jeg jo, at I er en skole som går meget op i idræt, hvordan kommer det til udtryk på det sociale plan og er der andre ting som I *gør* her på skolen som *gør* jeres skole speciel?)
- Med dine egne ord, hvad vil du så beskrive som værende jeres kerneværdier som I arbejder ud fra (Hjælpe spørgsmål prøv at uddybe, hvordan I *gør* dette)?
  - Fx i forhold til undervisningen og børnene og de unge?
  - Fx i forhold til jeres ansatte?
- Hvordan vil du beskrive det sociale sammenhold på skolen? (hjælpe spørgsmål, hvordan er man sammen her på skolen?)
- Kan du beskrive nogle af de sociale netværk I har? (både blandt de voksne og børn imellem og hver for sig)?

### Sundhedsfremme på skolen (inklusive beslutningsprocessen)

- Hvis vi så går videre til at snakke om sundhed, hvordan forstå du så sundhed?
- Hvad betyder sundhed for jer som skole?
- Foruden fire idrætstimer om ugen og tema uger, hvordan arbejder I så ellers med sundhed? (Eksempler)
- Har I nogle nedskrevne politikker på de områder på skolen?
- Hvordan vurderer du, at sundhed spiller sammen med skolen øvrige værdier og formål?

### Beslutningsprocessen

- Hvordan og hvorfor besluttede I, at Torpstrøp skole skulle være med i We ACT?
- Hvem var med til at beslutte det?



## Appendix D

### We Act Interview Guide – School Manager (06.06.2016)

Formål med interview-undersøgelsen<sup>11</sup>

Formålet er at skabe viden/empiri/data der skal indgå i en videnskabelig artikel om skolernes implementering af We Act og bidrage til evaluering/justering af We Act undervisningsmaterialer. Følgende skal belyses:

- Hvordan lærerne førte We Act ud i livet, om de fulgte eller afveg fra de trin, der er beskevet i lærervejledninger (hvordan og hvorfor). Dvs. vurdere graden af "implementation fidelity".
- Hvordan idegrundlaget for We Act (The "spirit") er blevet ført ud i livet (kvaliteten) intervention (Quality)
- Eleverns læringsudbytte (sundhedskompetence, dansk/mat/nat-tek) og udbyttet for skolen/sunde rammer.

### Indledning til interviewet

Først vil jeg sige tusind tak for dit arbejde med at få afprøvet og gennemført WeAct forløbet, og tak fordi du tager dig tid til at hjælpe os gennem dette her interview. Jeg har taget min kollega Dina med, som ikke har været med i udviklingen og udførelsen af dette projekt, men har stor erfaring med sundhedsfremme på skoler. Dina er med for at få et nyt og lidt udenforstående blik på projektet.

### Anerkendelse og respekt

Vi har stor respekt for det arbejde du og lærerne laver for at få undervisningen til at fungere og vi forstår at det sikkert nogle gange er et pres at skulle deltage i projekter som dette. Vi er samtidig også nødt til at udvikle materialer i samarbejde med lærerne, fordi hvis ikke materialerne fungerer for lærerne, så bliver de ikke brugt.

Derfor er formålet med interviewet, at få dit – og læreres – indspil til hvordan WeAct forløbet og materialerne evt. skal justeres.

---

<sup>11</sup> Formålet er ens for lærer- og skoleleder-interviews. Selve guiden er lidt forskellig.

### Frivillighed og tilladelse til at optage interviewet

Jeg har skrevet, at det er frivilligt at deltage, og vil spørge om vi må optage. Det vil blive behandlet fortroligt. Dvs. at det bliver anonymiseret og udelukkende brugt til vores analyser og evalueringsarbejde. (og så tænde lydoptager). Interviewet varer max 40 minutter.

### Vores spørgsmål falder i tre temaer (Dvs. ti minutter til hvert tema)

- Dels vil vi spørge ind til processen, til faserne i IVAC-modellen
- dels vil vi forsøge at få en forståelse af, om/hvordan projektets idegrundlag (sundhed integreret i undervisningen, demokratisk elevdeltagelse, bredt sundhedsbegreb) har slået an på skolen?
- til sidst vil vi spørge hvad du oplever, udbytte af projektet har været for skolen?

### Vigtigt at være kritisk

Det er vigtigt at sige, at kritik er ligeså godt som positive kommentarer. Du skal ikke tænke på at være høflig. Og det er alle typer af kritik, vi er interesserede i at kende til, for som sagt, har vi brug for at vide, hvad der skal justeres, eller om der er andre forhold som vi skal have med i vores overvejelser.

### Proces og materialer

- Hvordan har du oplevet processen med hele We Act forløbet? Set fra dit perspektiv som skoleleder  
*(vi har en A4 side med IVAC-modellen med, der ligger på bordet)*
- Hvilke var særligt gode/dårlige - hvorfor?
- Kan du uddybe/give eksempler?
- Hvordan ser du modellens idé om at der både er et klasseniveau og skoleniveau?
- (En god idé og en realistisk idé?)
- Hvad tænker du om arbejdet med visionsværkstedet som metode og med at skulle føre nogen ting ud i livet med det vi har kaldt "prøvehandlinger".

### We Act projektets idegrundlag

- Hvad du tænker om at **integrere sundhedsundervisning** i dansk og matematik - eller måske andre fag?
- Hvordan gør I normalt for at dække emnet "Familiiekundskab, Sundheds- og Seksualundervisning"?

- Kan du sige lidt om, hvad det er for en **sundhedsforståelse** eleverne lærer om igennem We Act forløbet?
- Kan du uddybe/give eksempler? (det brede positive sundhedsbegreb)
- We Act forløbets idé bygger på elevdeltagelse og demokratisk og anerkendende sundhedsundervisning, hvad tænker du om det?
- Kan du uddybe/give eksempler?

#### Udbyttet af We Act projektet

Et af formålene med We Act er at udvikle sundhedskompetencer og handlekompetencer hos eleverne for at fremme egen sundhed og at påvirke rammerne for sundhed på skolen.

- Hvad du tænker du om det?
- Kan et projekt som dette bidrage til at skabe sunde rammer på skolen?
- Er der nogen positive eller negative sideeffekter?

#### Afsluttende spørgsmål

- Hvordan har det påvirket, at forskerne har været til stede på skolen?
  - Kan du uddybe/give eksempler?
- Er der noget andet du vil sige, noget vi har glemt?

## Appendix E

### Follow-up Interview Guide - School Manager (October 2016)

#### Indledning til interviewet

Først vil jeg sige tusind tak fordi, at jeg må komme forbi og tale med dig om den videre proces med We Act i forlængelse af det interview Ane fortog tilbage i juni. Jeg sætter meget stor pris på, at jeg må bruge noget af din tid til at blive klogere på den videre proces, som vi i teamet bruger til at revidere undervisningsmaterialerne og udarbejde videnskabelige artikler som vi er i fuld gang med.

#### Formål

Formålet med interviewet er derfor med udgangspunkt i hvad i drøftede sidst og hvad der siden er sket på skolen, at høre dine oplevelser med den videre proces. Derudover vil jeg også meget gerne høre dit perspektiv på nogle kontekstfaktorer omkring skolen. Det skal jeg bruge i forbindelse med min ph.d. afhandling, hvor jeg beskriver mine case skoler og hvor konteksten i denne sammenhæng er vigtig når jeg analyserer 'we act' forløbet.

#### Mine spørgsmål falder i tre temaer

- Indledningsvis vil jeg stille nogle spørgsmål til den videre proces her på skole. Specifikt med udgangspunkt i det ark jeg har sent hvor elevernes visioner tilbage fra april fremgår
- Så vil jeg stille nogle spørgsmål omkring jeres skoles forskellige sociale netværk
- Dels vil jeg stille nogle spørgsmål omkring elevinddragelse

#### Frivillighed og tilladelse til at optage interviewet

Det er frivilligt at deltage, og vil spørge om vi må optage det vi taler om på bånd. Det vil blive behandlet fortroligt. Dvs. at det bliver anonymiseret og udelukkende brugt til vores analyser og evalueringsarbejde. *(og så tænde lydoptager)*. Interviewet varer max 40 minutter

#### Vigtigt at være kritisk

Det er vigtigt at sige, at kritik er ligeså godt som positive kommentarer. Du skal ikke tænke på at være høflig. Og det er alle typer af kritik, vi er interesserede i at kende til, for som sagt, har vi brug for at vide, hvad der skal justeres, eller om der er andre forhold som vi skal have med i vores overvejelser. Det kommer til at tage omkring 45 minutter.

## A & C proces i forhold til klasseniveau og skoleniveau og mulige barriere

Skemaet på næste side viser de visioner klasserne og grupperne havde på [x] skole

- Ved du om der er efterfølgende er sket noget i de enkelte klasser med de her visioner?

### Hvis ja:

- Hvad er der sket?
- Hvordan har I arbejdet med dem?
- Hvordan har I/eleverne oplevet processen?
- Hvordan har kommunikationen tilbage til eleverne været?
- Hvad har været særligt vigtigt for at det blev til noget?

### Hvis nej:

- Hvordan vil du beskrive de udfordringer der har været?
- Hvordan har skolens økonomi spillet en rolle?
- Hvordan har elevrådet spillet en rolle?
- Hvordan har skolebestyrelsen spillet en rolle?
- Hvordan har sundhedsudvalget spillet en rolle?
- Hvordan har andre forhold spillet en rolle?
- Hvordan mener du, at vi overfor nye skoler kan tydeliggøre, i det reviderede undervisningsmateriale, at der efter Investigation og Visionsværksted er en Action & Change fase?
- Hvordan kan vi tydeliggøre, at der er tiltænkt en overgang fra klasse-niveau til skole-niveau?

Hvis vi så går lidt videre til at tale om de sociale netværk på skolen, vil jeg starte med at spørge dig:

### Interne netværk

- Hvordan oplever du samarbejdet til forældrene her på skolen?
  - Er der andre netværk end skolebestyrelsen, hvor forældrene er med og aktive?
- Hvordan oplever du at elevrådet fungerer?
  - Er der nogle udfordringer ift. elevrådet?
  - Oplever I at eleverne er engageret?
  - Får eleverne beslutninger igennem?
- Hvordan oplever du elevernes relationer til hinanden på tværs af årgange?
- Er der sket noget i forhold til nogle de interne netværk efter We Act i forhold til før?

### Eksterne netværk

- Hvilke netværk her på skolen oplever du som værende de vigtigste i jeres hverdag?
  - Prøv at uddybe hvorfor de er særligt vigtige?
- Hvordan indgår lokale foreninger/sportsklubber i jeres hverdag?
- Er der sket noget i forhold til nogle af de eksterne netværk efter We Act i forhold til før?

### Elevmedbestemmelse

- Hvad betyder elevmedbestemmelse for jer som skole?
  - Hvordan arbejder i med det?
- Er der sket noget med elevmedbestemmelsen efter We Act i forhold til før?

### Afslutning

- Er der nogen ting som du tænker, er vigtige at få sagt, som du ikke allerede har været inde på?

Indsat skema over A&C for de to skoler.

## Appendix F

Supplementary tables - Histograms over outcome variables when constructed as continuous outcomes on a scale from 3 to 15.

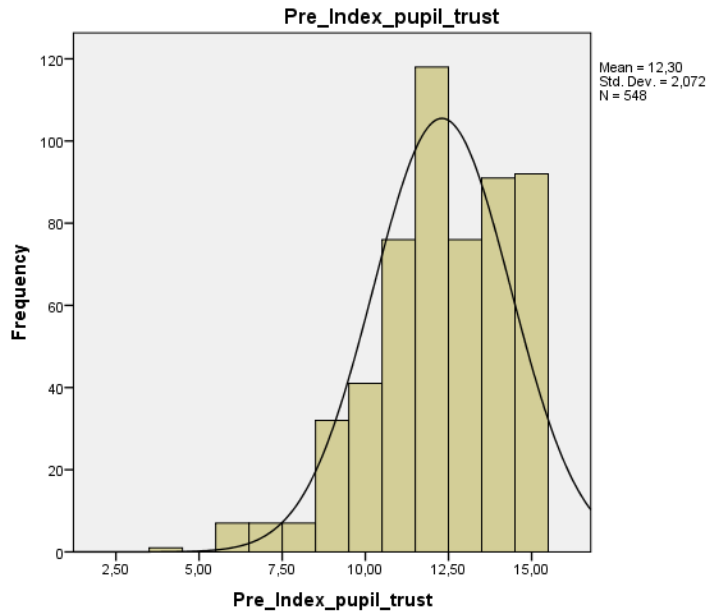


Table S1: Supplementary Histogram horizontal social capital **baseline**

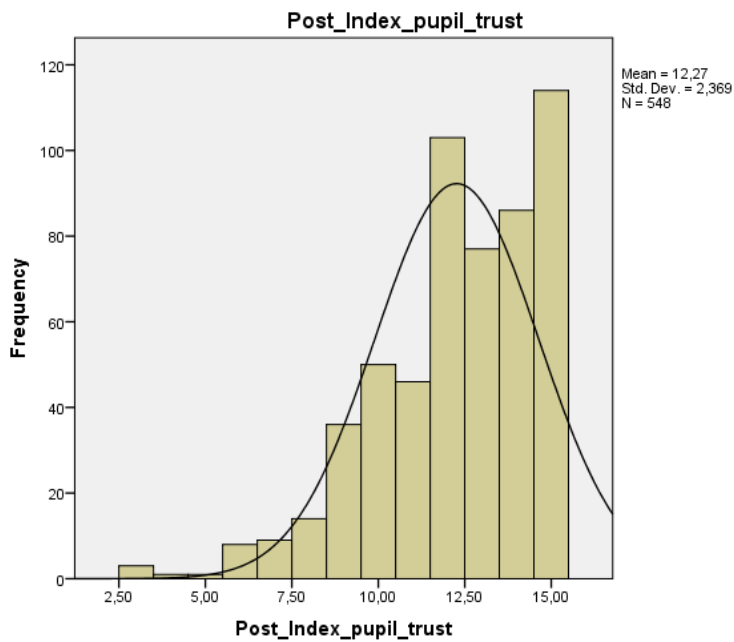


Table S2: Supplementary Histogram horizontal social capital **follow-up**

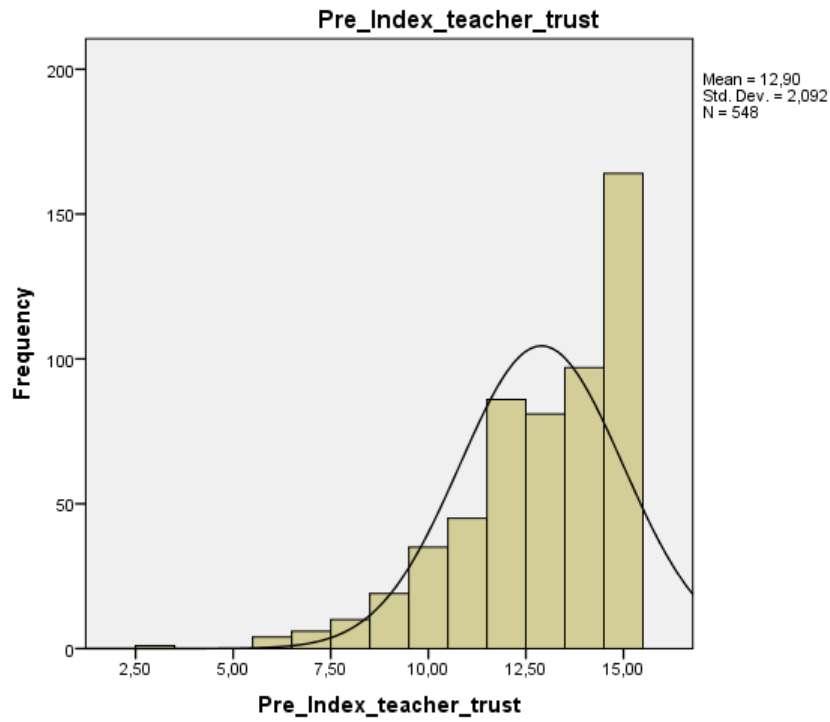


Table S3: Supplementary Histogram vertical social capital **baseline**

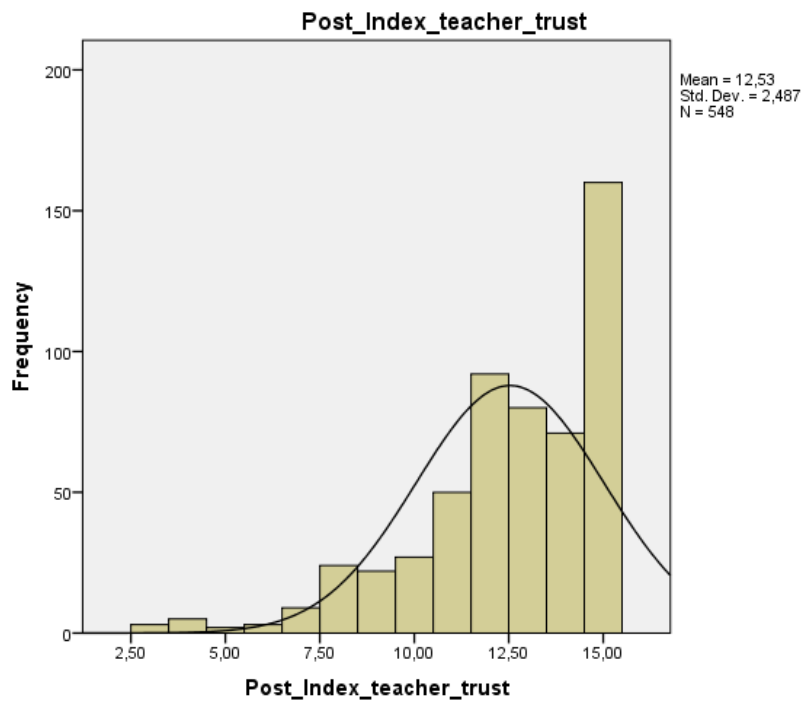


Table S4: Supplementary Histogram vertical social capital **follow-up**



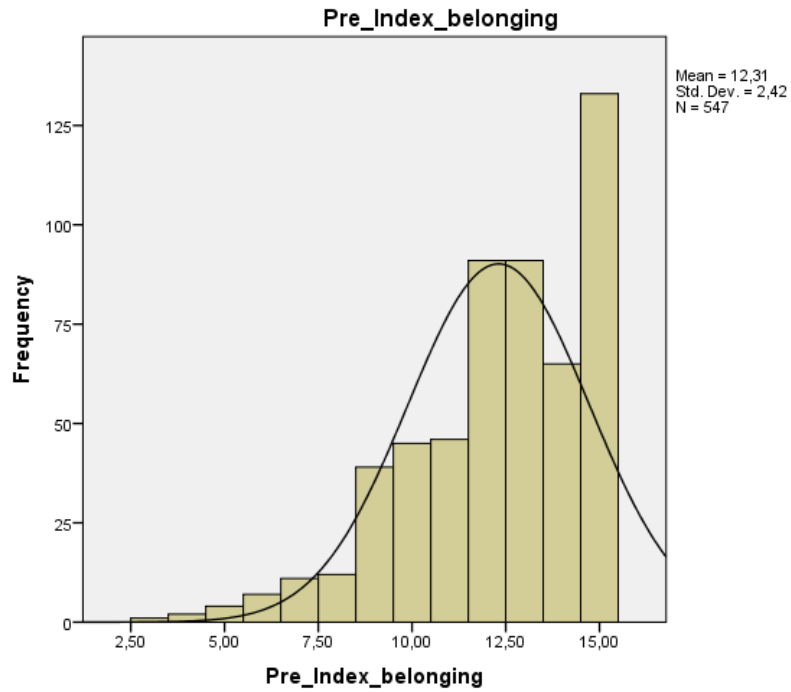


Table S5: Supplementary Histogram sense of belonging social capital **baseline**

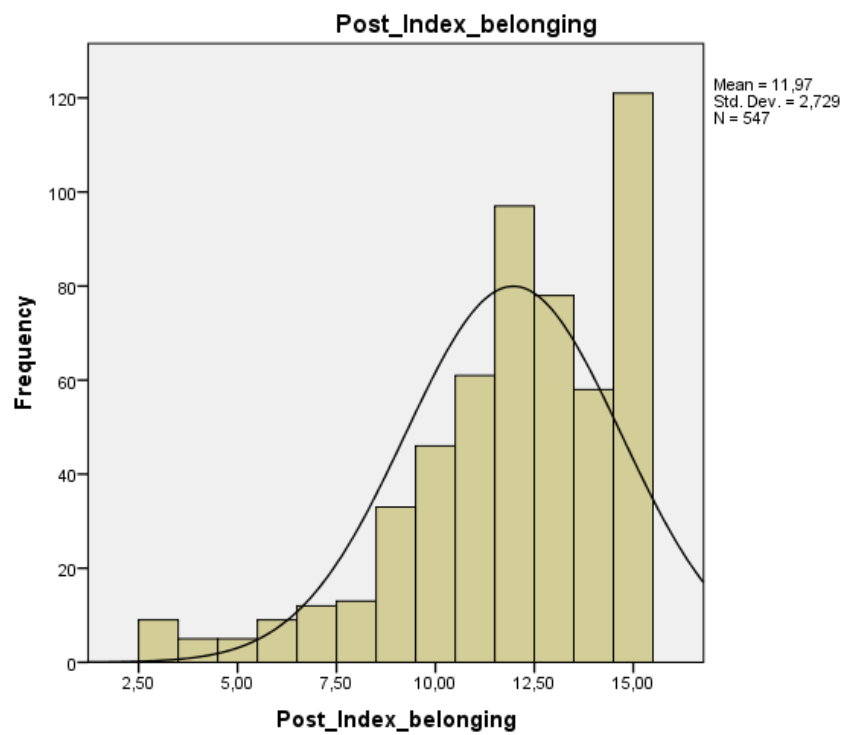


Table S6: Supplementary Histogram sense of belonging social capital **follow-up**

## Paper I - III



## **Paper I**

**The development of social capital in the school setting through children's genuine participation**



# Paper I

**Title: The development of social capital in the school setting through children's genuine participation**

**Authors:** Nanna W. Stjernqvist<sup>1,2\*</sup>, Nicole Thualagant<sup>3</sup>, Inge Tetens<sup>4,5</sup>, Helle T. Maindal<sup>2,5</sup>

<sup>1</sup> Division of Risk Assessment and Nutrition, National Food Institute, Technical University of Denmark, 2800 Kgs. Lyngby, DK

<sup>2</sup> Diabetes Prevention Research, Steno Diabetes Center Copenhagen, 2820 Gentofte, DK

<sup>3</sup> Research Center for Health Promotion, Department of People and Technology, Roskilde University, DK

<sup>4</sup> Risk-Benefit Research Group National Food Institute, Technical University of Denmark, 2800 Kgs. Lyngby, DK

<sup>5</sup> Present address: Vitality - Centre for Good Older Lives, Institute of Nutrition, Exercise and Sports, University of Copenhagen, 1958 Frederiksberg C, DK

<sup>6</sup> Present address: Department of Public Health - Department of Health Services Research, Aarhus University, 8000 Aarhus, DK

**\*Correspondence:** Nanna Wurr Stjernqvist, Division of Risk Assessment and Nutrition, National Food Institute, Technical University of Denmark, Kemitorvet, Building 201, room 115, 2800 Kgs. Lyngby, DK, Email: [naste@food.dtu.dk](mailto:naste@food.dtu.dk), phone: +45 29706169 (at all stages of refereeing and publication including post-publication)

**Title: The development of social capital in the school setting through children's genuine participation**

**Abstract**

Social capital has been found to be important for children's health, well-being and more broadly their welfare, but little is known regarding *how* social capital is generated by children within the school setting, drawing on children as active participants. Through an abductive research strategy based on focus group interviews with children age 10-12 years old, the study identifies three forms of participation relating to different practices and thus different opportunities and constraints of generating bonding and bridging social capital in the school context. The study highlights the importance of stressing pupils' genuine participation as an active social pedagogical principle.

**Keywords:** social capital, school, children, participation, practises

**Introduction**

The concern of involving children in decision making processes and activities in matters affecting their daily lives has increasingly become accepted politically as well as academically, following the adoption of the UN Convention on the Rights of the Child (Griebler *et al*, 2014). At the EU level, children's rights to participation are widely acknowledged in the Council of Europe, in legal documents like the Revised European Social Charter and the Convention on the Exercise of Children's Rights, and in policy documents (Kränzl-Nagl and Zartler, 2009). In Denmark, children's participation and learning about democracy have equally high priority. According to the legislation for the Folkeskole (the state school attended by most children), *'The Folkeskole is to prepare the students to be able to participate, demonstrate mutual responsibility and understand their rights and duties in a free and democratic society. The daily activities of the school must, therefore, be conducted in a spirit of intellectual freedom, equality and democracy'* (Danish Ministry of Education, 2014). According to political scientist Robert Putnam (2000; 1995), both formal and informal participation or what Putnam terms 'civic engagement' are considered key sources of social capital generation. A considerable body of studies finds that in general higher levels of social capital are associated with better health and well-being (Abbott, 2010) and recent systematic

reviews find associations between social capital and various health and well-being outcomes in children (McPherson *et al*, 2013; McPherson *et al*, 2014) and more broadly speaking their welfare (Jack and Jordan, 2006, Jørgensen, 2016). According to the assets approach, social capital may serve as a protective factor, which can have a cumulative effect on children's and young people's health and reduce risk-taking behaviour (Morgan and Haglund, 2012). From a child health policy perspective, the concept of social capital thus seems highly relevant. Nevertheless, little attention though has been devoted towards exploring *how* social capital is generated (Moore *et al*, 2012) drawing on children as active rather than passive participants. Moreover, most studies have focused on the family and community context, although schools from a children's perspective represent important communities, where children can develop social skills and habits of good citizenship and where children's formal and informal networks with peers and adults can be exploited (McPherson *et al*, 2014; McGonigal *et al*, 2007). The objectives are therefore to explore children's experiences of participation in everyday school situations and to contribute to an understanding of the mechanisms for development of social capital by children in the school setting, drawing on the concept of participation.

### **Child-generated social capital in the schoolsetting**

With several definitions drawing on different analytical levels social capital nevertheless remains highly debated and contested (Portes, 1998). In relation to children, the theoretical fathers of social capital have been criticised for neglecting children's capacity and their own agency in generating and utilising social capital (Morrow, 1999; Leonard, 2005). Drawing on the modern sociology of childhood, Morrow (1999) criticises Coleman and Putnam for taking a top-down view in their definition of social capital. With a strong focus on parents' ability to transfer social capital to their children, both authors thus seem to neglect how children themselves develop and transfer social capital. The same could perhaps be said about Bourdieu and his approach to social capital. His rather deterministic approach to the social determinants of social inequality does not leave space for exploration of how children might also affect the environments they are embedded in (Jenkins, 1982, Weller 2006). Morrow (1999) also criticises Putnam's definition for its specific focus on 'civic participation' and 'civic engagement' and explains how children qua children are often excluded from civic participation (Morrow, 2001). Opposing the dominant definitions, she thus suggests a more 'active' conceptualisation of children and the inclusion of their own perspectives and voices, while also paying attention to structures of inequalities in line with Bourdieu's conceptualisation. In a later qualitative study on children's perceived



participation in the school setting conducted in a relatively deprived area in England Morrow (2005) found that children perceived their participation in the school setting as being rather ambiguous and limited and that the concept of participation had to be viewed in terms of the broader context of the school as well as the inherent relationships within the school. She did not however report on this in more detail.

Building on Morrow, recent studies emphasise children's own agency in generation of social capital, focusing on children's peer groups and their different places and how this contributes to children's health and well-being (Cockburn, 2016; Weller, 2006; Schaefer-McDaniel, 2004; Jørgensen, 2016). Schaefer-McDaniel (2004) opposes Morrow's (1999) critique and rejection of Coleman's and Putnam's relevance and argues that all the theoretical fathers can contribute productively to the definition of social capital in relation to children. She suggests that a fruitful way forward is to view the concept as being both an individual asset and a collective asset. For example, Putnam's collective perspective on civic engagement may be useful in drawing attention to the source of social capital, in line with Weller (2006) and Billett (2011) who argues for a more nuanced understanding of civic participation in relation to children, while Bourdieu's more individualistic account and emphasis of sociability and interlinked forms of capital points towards power imbalances and structures of inequalities. In research terms, opposing the dominant definitions thus, is not helpful. Though stressing more explicit our attentions and goals for children will help explicate why one might be more important than the other for the research question in mind (Morgan and Haglund, 2012).

In this respect we argue that Putnam's collective and communitarian perspective emphasising formal as well as informal participation is useful as it highlights the importance of children's active participation in decision-making-processes within the school in line with the UN's convention on the right of the child and the research objective of the current study. Though we need to consider different forms of participation relevant for children rather than those relevant for adults and children's specific understanding of the environment and community (Hart, 1997; Weller, 2006). Integrated into the context of the school, Putnam's (2000) distinction between different 'types' of social capital, namely *bridging* (or inclusive) and *bonding* (or exclusive) have also been found fruitful in recognising the different values inherent into different networks (Allan and Persson, 2015; McGonigal *et al*, 2007). Bonding social capital refers to connections between individuals that share similar characteristics and interests and tends to reinforce homogeneity and exclusivity by promoting solidarity between people in the network. Bonding social capital may, however, also include negative aspects such as mistrust, bullying and exclusion (McGonigal *et al*, 2007). Bridging

social capital, by contrast, is characterised by its weaker social ties between people from diverse contexts and has thus been seen as more inclusive by creating broader identities and reciprocity, whereas bonding social capital strengthens our narrow selves. Bonding and bridging social capital are however, not 'either/or' categories but rather 'more or less' social dimensions, whereby we can compare different forms of social capital (Putnam, 2000).

Following this distinction, Allan and Catts (2012) have recognised the limitations of trying to confirm and quantify the amount of existing social capital *per se*, but suggest looking towards social capital *practices* and their effects. This implies redirecting attention towards activities and different spaces in which social capital is constantly organised, transformed and negotiated. With the objective of providing an understanding of the complex relation between interaction and practices between children and adults in the school setting, we wish to direct our focus on practices and mechanisms for developing social capital rather than the quantification of existing social capital. The current paper thus views social capital as inherent into structures of social interactions and social relations between individuals within specific contexts that are based on trust and reciprocity and has potential to be transformative (Weller 2006).

### **Child participation, citizenship and the Health Promotion School**

Because Putnam says little regarding children's civic engagement or active participation in the school setting, and we do experience the children being active participants in a Danish school setting, we find inspiration from Hart (1992) whom proposes a definition of children's participation that relates to democracy and citizenship. He argues that it is only through direct participation that children can develop genuine appreciation of democracy and a sense of their competences and responsibilities to participate in democracies. He defines participation as '*a process of sharing decisions which affect one's life and the life of the community in which one lives. It is the means by which a democracy is built and it is a standard against which democracies should be measured*' (Hart, 1992, p.5). To operationalize the concept of child participation Hart (Hart 1997) develops a participatory ladder, with the five upper steps representing different forms of participation ranging from 'child-initiated shared decisions with adults', 'Child-initiated and directed' to 'assigned but informed', while the lowest levels represent non-participation.

In line with the democratic discourse, this concept has been connected to the *Health Promoting School* (HPS) approach and the paradigm of democratic health education that was established in the Scandinavian context (Jensen, 1997; Jensen and Simovska, 2005). The HPS approach emphasises children's democratic participation and how health education in school has

to be supplemented with structural changes in the physical and social environment in schools. Simovska (2004) introduces the concept into the school setting in the context of the HPS and the paradigm of democratic health education. Drawing on Hart's participatory ladder, she develops a model that distinguishes between *genuine* and *token* participation. The latter refers to education where pupils must learn a specific content that have to be learned and accepted and where pupils do not have much influence on the knowledge they are supposed to learn. By contrast, genuine participation is characterised by a less hierarchical power balance between teacher and pupils and focuses on the learning process in context. Genuine participation thus emphasise critical dialogue between pupils and teachers that reflect the pupils reflection and personal meaning (Simovska, 2004).

### **Contextualising the research**

With a focus on children's participation in everyday school situations in relation to an exploration of how social capital is being generated in the school setting, the present study was conducted at two Danish public schools as part of a larger school health promotion programme called 'We Act - Together for Health'<sup>1</sup> (We Act). Based on interviews with school principals and key official documents from the schools including annual reviews of their performances, the two schools were selected to represent heterogenic characteristics in terms of their size, the socio-economic background of the school neighbourhood including ethnic composition, and the geographical location, in order to discern common patterns across different cases (Miles and Huberman, 1994). School A is a small school with 270 pupils and little ethnic diversity in a village in the Zealand countryside, which the school principal described as: "a land flowing with milk and honey with few problems, unlike some other school districts". School B, in a suburb of Copenhagen, has about 700 pupils. The school is located in a mixed area, which the school principal described as having "a solid mix of children who have – where families have few resources, financially and human social resources and then some children who come from fairly well-functioning privileged homes and that's around fifty/fifty". With about 32 nationalities represented at the school, the pupils were clearly more ethnically diverse than in school A.

At a macro level and in relation to children's participation, the Danish welfare state guarantees and provides highly subsidised childcare and publicly funded education as stated in

---

<sup>1</sup> We Act was a multidimensional Health Promoting School intervention developed for pupils age 10-13 (grade five-six) within a Danish school context. The intervention objectives were to promote dietary habits, physical activity, well-being and social capital among pupils <https://www.isrctn.com/ISRCTN85203017>

the national laws on childcare and state schools in Denmark. Values of democracy and children's development of democratic skills are thus embedded in educational practices in state schools (Ringsmose and Krag-Müller, 2017).

## **Method and materials**

To gain insights into how children perceive their participation in everyday school situations and how these experiences could be said to affect social capital practices as well as the general well-being of children, qualitative focus group interviews with schoolchildren aged 10-12 were chosen as the primary research method.

### **Focus groups**

Focus group interviews were conducted to explore both 'what' children say about their participation in everyday school activities in the school setting in relation to social capital, but also 'how' children in the group say and negotiate those things (Morgan, 2010). Interactions between participants may thus provide new insights into the content by providing a broader view of the social context and the social process i.e. norms and attitudes (Belzile and Öberg 2012), which is fruitful in relation to exploring the dynamic and relational nature of social capital. The method was also chosen to support group members and reduce pressure on individuals to respond to all questions, and thereby help redressing the existing power imbalance between the child and an adult (Green and Hogan, 2012). Moreover, focus group interviews may seem less intrusive than an in-depth face-to-face interview with a child (Mauthner, 1997). In total ten focus group interviews with a total of 44 children were conducted. Four focus group interviews were performed at school A and six focus group interviews were conducted at school B (Table 1). The focus groups interviews lasted from 45 to 63 minutes and were conducted in May and June 2016 based on a pilot study with two groups (with four children in each group) at school A which was conducted in February, when the moderator guide was tested and adjusted. The focus group moderator guide was divided into two general themes. The first was children's participation in everyday school situations in relation to what we as researchers would term 'social capital', inspired by Schaefer-McDaniel (2004) (see Table 2). The second theme was related to children's participation in the specific intervention 'We Act' in relation to social capital. The experiences connected to this specific intervention is not of relevance to this paper since we here wish to

explore the children's experiences of participation in relation to generation of social capital in everyday school situation.

**<Table 1 is inserted here.>**

**<Table 2 is inserted here.>**

To operationalise the concept of participation and to encourage discussion about different forms of participation in relation to social interactions, we used four photos illustrating different forms of child participation in the school setting inspired by photo elicitation interview techniques (Epstein et al., 2006). Two photos illustrated activities in the classroom, where the children were sitting down and the teacher was standing up teaching. A third photo showed children playing together in a big room, while the fourth showed children serving food and eating together in a big room. In addition, a map showing the school area and buildings was used to encourage the children's participation in the discussion on the school setting and different spaces. The content of the photos and the moderator guide were piloted in two focus groups prior to the ten focus groups of the study, using sorting and ranking activities. The pilot interviews showed that the children could connect to the images; they told different stories from their everyday school life representing different forms of child participation. Each focus group was organised with a moderator who led the discussion, and a co-moderator who mainly operated the tape recorder and technical equipment, while also assisting the discussion and observing group dynamics (Morgan *et al*, 2002). To emphasise the informality, redress existing power imbalances and promote the involvement of all the children, all the focus groups were held at an after-school facility where the children went daily. We moreover thought it necessary to complement the emphasis of informality and redress the existing power-imbalances by establishing some ground rules prior to each session to both set boundaries and expectations (Morgan et al. 2002). The ground rules applied were: everyone gets a chance to speak; there are no right or wrong answers - you are the experts; you do not need to put up your fingers, but if possible speak one at a time. The ground rules were written on papers and placed in the middle of the table or pinned onto a notion board at the beginning of the session. Each focus group was thus organised with an introduction round where the ground rules were introduced, followed by a 'setting the scene' activity where children were encouraged to say their name and a situation where they either enjoyed being in school or where they did not enjoy it (Kennedy *et al*, 2001). The interview then moved on to descriptive and evaluative questions and discussions following the three general

themes on social capital in the moderator guide. Based on a general recommendation that homogeneity is best (Green and Hogan, 2012), we anticipated that less active pupils would feel less dominated in groups with similar children. Hence, the focus groups were composed according to their school class, mixed gender and 'active' vs. 'less active' children. Teachers were asked to select four to five children, both boys and girls, from the same class, on a voluntary basis, who they assessed as either 'less active children' or 'more active children'. The group size of four to five children has been found to be fruitful in stimulating discussion between participants in this particular age group (Morgan *et al*, 2002).

### **Data analysis**

The research process followed an abductive approach where collection and analysis of data was guided by theoretical studies and combined with theory as a source of inspiration for discovering new patterns (Alvesson and Sköldbberg, 2009). The operationalisation of social capital focused on bonding and bridging social capital practises described by Allan and Catts (2013). For analytical purposes, and similar to Baerenholdt and Aarsaether (2002), we made a distinction between *practices* and the assets (different types of social capital). With the aim of exploring both the content and social process of pupil participation and understand how social capital can emerge, the analysis proceeded in a dynamic process of reading and re-reading the text after all the recordings had been transcribed (Haliker, 2016). Working progressively with each case and using the techniques of coding, categorisation and conceptualisation, which took place in multiple rounds, the analysis proceeded by linking data to concepts (Coffey and Atkinson, 1996). Then categories across the cases were summarised and recurring categories and concepts were discussed with co-authors. To open up the group interaction and differentiate individual voices from opinions and experiences expressed by the group, we asked 12 analytical questions for each interview (Stevens, 1996). This was done separately for each case and then compared to group data in the final stage.

### **Findings**

The data revealed the three forms of participation shown in Figure 1. These forms represent different opportunities as well as constraints to participation in the school setting, as described by the children, and how these are formed in a complex interplay between the physical and social

environment. Where child-directed participation and adult/child-directed participation relate to genuine participation, adult-directed participation relates to token participation. In relation to the three forms of participation, the analysis also resulted in nine interrelated practices that relate to mechanisms for the generation of social capital.

**<Figure 1 is inserted here>**

## **Child-directed participation**

### ***The need for mobility***

When discussing different situations where they perceived that they had power to influence decision making at school, children at both schools emphasised various situations where they could run around or somehow be physically active and be free to do what they wanted. When elaborating, the children explained how such activities, which they enjoyed very much as they would be playing together with their friends or classmates, could occur during playtime, after school hours or as part of the lessons. Further, in the discussion about which photos children thought illustrated the highest form of child participation, children at both schools argued that photos where the children were moving around were the most participatory ones. However, in line with Hart's participatory ladder, the children distinguished between active situations where they initiated games and felt free to do what they wanted, which mostly occurred during playtime, and situations that were directed and negotiated with the teachers.

### ***Playing outside the school area***

In both schools, children connected different places with this form of participation and explained how different outdoor areas such as the soccer pitch or the skateboard ramp were places where they would experience autonomy. This was well illustrated in one group when the interviewer asked how things were during play-time and all the group members were very eager to elaborate as illustrated in the interview except:

MODERATOR: Could you give an example why that's good? [ELINA: Because... because there you can just be with [uh] your friends and then you can just do what you like and so on.] [MODERATOR: Yes] [ELINA: You can be yourself in a different way.]

MODERATOR: In a different way [ALI: Yes], can you say a bit more about that?

ALI: To be yourself in a different way. [MINA: uh] [THOMAS: You're free.] [MINA: Yes, you're free.] [ALI: free]



MINA: For instance, when I get out, I like to yell out loud when it's rainy. [laughter]  
[MODERATOR: laughs] [ALI: You can't do that when you're indoors.]  
[THOMAS: You're just free to do what you want. No one decides what you're not allowed to do.]

(5th grade, School B)

Besides the feeling of being more 'free' and mobile, playing outside at different places allowed children opportunities to interact with peers and develop friendships. These developed through games, playing and other interactions at places outside the school building or in virtual spaces, and were experienced as being supportive.

In both schools, children revealed how they normally would hang out with friends from their own class with a tendency of developing networks with other pupils of the same gender, in line with bonding social capital (McGonigal *et al*, 2007). These friendships developed based on common interests and a common understanding. For instance, two girls described how they belonged to the popular group of girls in the class who were more into talking and chatting rather than playing childish games as the other group of girls in the class did while the boys would be together. Playing together across age groups was moreover quite uncommon at school B, except for a few children who led the talk in the groups who explained having friends from older classes and during snowball fights, which could often end in chaos. At school A playing across different classes appeared more often in relation to teacher organised activities. In both schools some children highlighted their appreciation with the division of the school yard into 'lillegård' (from grade 0-3) and 'storegård' (grade 3-9) that allowed opportunities for more age-specific activities, which indicates the importance of the physical space in terms of creating opportunities of generating bonding and bridging social capital.

The interaction analysis, however, also showed how a few children in both schools were very quiet when discussing their favourite places and whom they would play with or answered reluctantly when asked by the moderator. This indicates that not all children felt the same way about feeling 'free' and being able to interact with classmates or older peers when having autonomy to decide for themselves. Practices integrated into child-directed participation thus also appeared to hold a rather exclusive quality in line with bonding social capital (McGonigal *et al*, 2007).

### ***Negotiating rules with peers***

With little interference from adults during playtime, children described practices where they developed and negotiated their own rules with peers from their own class and/or peers from their parallel class. Being the first to enter a specific playing area, for instance, meant that you had a right to be there and to make the rules for the game to be played. With autonomy to choose whom to play with, what to play, which rules to apply, and where to be, children at both schools, however, also explained how these situations could sometimes end in conflict, where some children felt excluded. This was generally related to interactions with peers from the same class but could also occur when interacting with peers from other classes, where there could be bickering between the classes. For example, one group described how being excluded from a play while others were not could end in conflict among the children. With the absence of a teacher as in this case or during playtime where adults were much less visible and interfering, peer interaction could turn out to be somewhat exclusive rather than inclusive in line with bonding social capital practices.

### **Adult/child-directed participation**

#### ***Regular social interaction***

While most children explained their ranking of photos with the argument that the highest-ranking photo was the one without adults, some groups in the two schools highlighted situations where adults were present. These could be social events at the school like Christmas parties, overnight trips at the school, plays, etc. or specific subjects such as home economics, maths or physical education in which they experienced more autonomy. These activities were characterised by involving social interaction between teachers and children and physical activity and allowed opportunities for new interactions across gender, classes or new friendships to develop. Children distinguished between teaching that included movement or social interaction, such as group work or peer interaction where the teacher would be guiding them, and teaching with less social interaction and mobility, involving little or no opportunity to negotiate with the teacher. Elaborating on the former, however, children in both schools agreed that, although they felt that these activities did have a higher element of child participation, most of them were still adult-initiated as opposed to child-directed participation where children provided the ideas.

### ***Activities outside the classroom***

When given the opportunity to suggest ideas to teachers or other adults at school, children in both schools emphasised activities which involved movement, preferably outside the classroom. One group, for instance, explained how they had suggested doing a 'maths-run' outside the classroom as part of their Maths lesson, which their maths teacher had agreed to initiate with running activities. While their Maths teacher had listened to them and changed her teaching to become more active, which the pupils enjoyed very much, this form of participation, which is related to what Hart (1992) terms 'child initiated shared decisions with adults', was, however, quite unusual in the school setting. It was mostly in the form of social non-teaching activities such as overnight trips or as part of support teaching. The same group went on to explain how this kind of teaching was specifically related to their maths teacher, whom they trusted very much, and when the class had suggested similar activities in Danish and history, those teachers had refused, which the pupils found very disappointing.

### ***Participatory democratic education***

Although teaching where children initiated ideas was less common in either of the two cases, children in both schools did explain various situations where a teacher or social educator consulted them and involved them in parts of the decision-making process. This was experienced as supportive and associated with improved well-being for the whole class, but also for children who described being faced with difficulties. These practices could take various forms and take place across different subjects or school activities and were typically inclusive, where the teacher or adult would focus particularly on getting everyone involved and not just children who would normally be participating. Some children, for example, described how being able to talk freely in class was more difficult for some pupils than for others, which could end in situations where the quiet pupils would be left out of the process. Through democratic teaching strategies such as including mixing the children into groups based on interest or making children with difficulties earn 'stars' that could be directed for the benefit of the whole class, some teachers, however, managed to provide space for more inclusive learning and new social interactions across classes or within the class among the boys and girls. This was highly appreciated by the children as illustrated in the below interview except where a group of children elaborated why they were looking forward to an overnight event at the school - a reward, which was organised by the teachers, but where the children took part in planning the process:

MATHIAS: I am just looking forward to it [overnight event for the class] because you never know what happens.

MODERATOR: No.

MATHIAS: You might get some new friends or ... Who counts as a friend

MODERATOR: Okay, because you can spend an evening hanging out? [MATHIAS: and maybe that is also funny ... for the boys ... because then they can tease the girls or something. [ALBERTE: Like they ALWAYS do - laughing] [MATHIAS: Laughing]

MODERATOR: What does the teachers decide then? The teachers also sleep here (ed. in the school) don't they?

ALBERTE og JONAS: Yes.

ALBERTE: Yes, they decide when we should go to bed and things like that and it is also them who buys the food, but we are maybe part of planning what we should have [MODERATOR: okay]. It should be too much of a hassle [MODERATOR: No]

(5th grade, School A)

Mixing children across classes also served to develop bridging capital or making bonding social capital transform into bridging social capital. At school B, for example, the children explained how they used to compete between the classes and disrupt each other's games, where the two classes who belonged to the same after-school facility competed against a third class, saying that the third class was weird and stupid. This, however, had changed after the teachers had introduced cross-class activities allowing opportunities for 'new' interactions among the children. Through these mechanisms pupils were encouraged to work together in 'new' groups where they discovered how the other children were not as 'bad' as they originally believed. This mechanism thus allowed for broader cross-class identities to develop alongside new networks based on trust and reciprocity in line with bridging social capital and seemed to promote well-being as some children said.

## **Adult-directed participation**

### ***Inactive learning***

At both schools, children talked about situations where they did not experience any form of autonomy with little or no room for negotiation with teachers. The children connected this form of participation to being physically inactive, with little or no social interaction. When discussing the different photos, children in both schools agreed that the lowest ranking photos were those that depicted children sitting down with their teachers standing up at the blackboard teaching with little interaction. The children explained that such situations occurred mostly in textbook learning, when they had a substitute teacher or were doing homework at the end of the day as part of the newly implemented school reform. Contrary to 'adult/child' directed participation where teachers made use of various teaching styles including discussions, group work, etc., and where children were partly involved in decision-making processes and able to move around, teachers did not pay much attention to suggestions made by the pupils, in line with what Simovska (2004) terms token participation.

### ***Activities inside the classroom***

In both schools, children connected adult-directed participation with activities that occurred inside the classroom. Moreover, children at both schools experienced this form of participation as being 'old-school', 'serious' and boring teaching, where they were free to put up their hands to ask or answer questions, but with little opportunity to influence the content of the teaching or the teaching style. Children also associated adult-directed participation with waiting time and explained different situations where they had to sit and wait for a very long time for the teachers to come and help them. With little opportunity to interact socially with other peers, get outside the classroom and negotiate with teachers, children described how these activities were sometimes difficult to adapt to.

### ***Teachers' rules and children's reactions***

Children thus described how teachers' rules, in situations where they had little influence, were not always felt to be fair. This might occur if they were told to remain seated for a very long time without getting a break or doing more 'active teaching' outside the classroom. The children explained how these

situations were often connected to having a substitute teacher or a teacher whom they did not know very well and where some children would react by start moving around:

BERTRAM: [No] Actually I think... most of the time... sometimes... then someone... we end up here when it's so...

MODERATOR: What do you mean, end up here?

BERTRAM: So when it's like you're sitting still, the teacher too, and you just sit there... ten minutes and then you don't bother any more, and you stand up and walk over to someone else and talk to him [SARAH: Yes, that's also a problem] or her or someone... all because you can't and she decides... or she decides too much.'

(5th grade, School B)

While not all groups described similar reactions, but argued how school cannot always be fun, the pupils of both schools explained how these reactions partly depended on whether they trusted their teacher. They elaborated by explaining how they trusted and respected teachers whom they had known for a long time. Having new teachers coming and going was therefore challenging for the development of trusting relations between pupils and teachers; this could affect the teaching, but also the individual child's experience of being heard. A few children at both schools thus told how they had experienced being avoided by a teacher because of various conflicts, but knowing the teacher well seemed to be important in changing this relationship. This mechanism integrated into adult-directed participation thus did not appear to promote development of bonding and bridging social capital and when trusting relations seemed to be absent, this tended to create disruption and individual experiences of not being heard.

### **Discussion – Exploring the link between participation and social capital**

The intention of this study was to explore children's experiences of participation in everyday school situations and to contribute to an understanding of the mechanisms for generating social capital in the school setting drawing on the concept of participation. Drawing on children's voices from two different public schools and theoretical inspirations from Hart (1992) and Simovska (2004), this paper emphasises children's experiences of their opportunities and constraints to participation in the school setting. These are formed in a complex interplay between the social and physical environment of the school and the

broader educational context. While the practices integrated into child-directed participation during playtime tend to be inward-looking, providing support and autonomy, but also exclusion of some children, practices integrated into adult/child-directed participation tend to provide opportunities for both bonding and bridging practices to develop and transform. The paper thus illustrates how teachers' use of participatory democratic education enabled the development of both bonding and bridging social capital, contrary to practices integrated into adult-directed participation. One focus group also explained how they preferred to be with same-gender peers during school hours, which one boy explained was because they were 'classmates' while after school hours they would be with their 'friends' from other classes in mixed gender groups. This highlights the dynamic and contextual nature of the mechanisms for development of social capital, and how different settings both constrain and enable generation of different forms of social capital. This has also been elaborated by other scholars (Allan and Catts, 2013; Weller, 2006; Jørgensen, 2016; Morrow, 2001), such as McGonigal *et al* (2007), who propose that bonding social capital may occur in specific school departments or in the class, while bridging social capital may occur in relation to cross-curricular activities between classes or in relation to 'buddying' arrangements. The role of the class as essential with respect to friendship formation has furthermore been emphasised by Jørgensen (2016), who points out three main ways of developing peer social capital: 'being in the same class', 'through a common out-of-class activity' or through a 'snowball' process. From an institutional and educational perspective and in line with the HPS approach, this points towards a strengthening of the relational aspect, where democratic educational practices in school can foster the development of bonding as well as bridging social capital. This was also maintained by Allan and Catts (2014) who found how school staff in different school contexts in Scotland facilitated bonding as well as bridging social capital practice for pupils from refugee families to include other pupils into the school setting. In addition, a systematic review on the effect of children's participation in school health promotion identifies evidence of positive effects on interactions and social relations at school (Griebler *et al*, 2014), which highlights an association between children's participation and improved social relations and interactions at a broader empirical level. While Morrow (1999) criticises Putnam's conceptualisation of social capital in relation to children, arguing that children are often excluded from civic participation, this study suggests a nuanced conceptualisation regarding children's participation in relation to social capital generation in the school setting. By merging two different perspectives, i.e. introducing a democratic perspective of participation alongside structural changes within the school setting as explained by Hart (1992) and Simovska (2004) within the framework of social capital, this study not only suggests that participation can be perceived at different levels, but also that genuine

participation interrelates with social capital. These different levels of participation that are integrated into the specific school context create different opportunities for peer-to-peer and peer-to-adult interaction and thus indicate fluctuating social capital practices, which other studies have found beneficial for health and well-being (e.g. Morgan and Haglund, 2009). These findings may be a useful way to put forward a more action-oriented perspective on how social capital is developed with children as active participants. With the emphasis on pupil participation in a democratic perspective alongside structural changes at the school level, the merged perspectives highlight the importance of stressing pupils' genuine participation as an active social pedagogical principle.

### **Concluding remarks**

There is a need to look further into the relation between children's participation and the mechanisms for development of social capital in a wider variety of school contexts and settings and thus gain awareness of the specific contextual conditions influencing the development of social capital. With the aim of developing social capital within the school setting, there is moreover a need for future research to investigate more thoroughly how interventions that build on the paradigm of democratic health education and the HPS approach may relate to the development of social capital in the school setting.

### **Bibliography**

- Abbott, S., 2010. Social capital and health: The role of participation. *Social Theory & Health*, 8(1), pp.51–65.
- Allan, J. & Catts, R., 2014. Schools, Social Capital and Space. *Cambridge Journal of Education*, 44(2), pp.217–228.
- Allan, J. & Catts, R., 2012. *Social Capital, Children and Young People - Implications for practise, policy and research* J. Allan & R. Catts, eds., Bristol: Policy Press.
- Allan, J. & Persson, E., 2016. Students' perspectives on raising achievement through inclusion in Essunga, Sweden. *Educational Review*, 68(1), pp.82–95.
- Alvesson, M. & Sköldbberg, K., 2009. *Reflexive Methodology. New Vistas for Qualitative Research*,



London: SAGE Publication.

- Belzile, J.A. & Öberg, G., 2012. Where to begin? Grappling with how to use participant interaction in focus group design. *Qualitative Research*, 12(124), pp.459–472.
- Billett, P., 2011. *Youth social capital: getting on and getting ahead in life*, Doctor of Philosophy thesis. University of Wollongong.
- Cockburn, T., 2016. Children and the 'Social Cohesion' Agenda in Sport: Children's Participation in 'Ethnically Mixed' Sports Teams in the North of England. *Children & Society*, 31(1), pp.50–60.
- Coffey, A. & Atkinson, P., 1996. *Making sense of qualitative data*, California: SAGE Publication.
- Danish Ministry of Education & Undervisningsministeriet, 2014. *Bekendtgørelse af lov om folkeskolen*, København K: Danish Ministry of Education. Available at: <https://www.retsinformation.dk/pdfPrint.aspx?id=163970> [Accessed February 27, 2017].
- Epstein, I. et al., 2006. Photo elicitation interview (PEI): Using photos to elicit children's perspectives. *International Journal of Qualitative Methods*, 5(3), pp.1–10.
- Green, S. & Hogan, D., 2012. *Researching children's experiences*, Cornwall: SAGE Publication Ltd.
- Griebler, U. et al., 2014. Effects of student participation in school health promotion: a systematic review. *Health promotion international*, pp.1–12.
- Haliker, B., 2016. *Fokus grupper*, Viborg: Samfundslitteratur.
- Hart, R.A., 1992. Children's Participation: from Tokenism to Citizenship. *Innocenti Essays*, 4, pp.1–39. Available at: [http://www.unicef-irc.org/publications/pdf/childrens\\_participation.pdf](http://www.unicef-irc.org/publications/pdf/childrens_participation.pdf) [Accessed February 27, 2017].
- Hart, R.A., 1997. *Children's Participation - The Theory and Practise of Involving Young Citizens in Community Development and Environmental Care*, London: Earthscan Publications Limited.
- Jensen, B.B., 1997. A case of two paradigms within health education. *Health Education Research*, 12(4), pp.419–428.
- Jensen, B.B. & Simovska, V., 2005. Involving students in learning and health promotion processes - clarifying why? what? and how? *IUHPE - Promotion & Education*, XII(3–4), pp.150–156.

- Jørgensen, C.H.R., 2016. 'Peer social capital' and networks of migrants and minority ethnic youth in England and Spain. *British Journal of Sociology of Education*, pp.1–12. Available at: <http://dx.doi.org/10.1080/01425692.2015.1131144>.
- Kennedy, C., Kools, S. & Krueger, R., 2001. Methodological considerations in children's focus groups. *Nursing research*, 50(3), pp.184–187.
- Kränzl-Nagl, R. & Zartler, U., 2009. Children's participation in school and community: European perspectives. In B. Percy-Smith & N. Thomas, eds. *A Handbook of Children and Young Peoples's Participation - Perspectives from Theory and Practice*. New York: Routledge, pp. 164–174.
- Leonard, M., 2005. Children, Childhood and Social Capital: Exploring the Links. *Sociology*, 39(4), pp.605–622.
- Mauthner, M., 1997. Methodological Aspects of Collecting data from Children: Lessons from Three Research Projects. *Children and Society*, 11(1), pp.16–28.
- McGonigal, J. et al., 2007. Social capital, social inclusion and changing school contexts: A scottish perspective. *British Journal of Educational Studies*, 55(1), pp.77–94.
- McPherson, K. et al., 2014. The association between social capital and mental health and behavioural problems in children and adolescents: an integrative systematic review. *BMC psychology*, 2(1), p.7.
- McPherson, K. et al., 2013. The role and impact of social capital on the health and wellbeing of children and adolescents: a systematic review. , (January 2013).
- Moore, S., Salsberg, J. & Leroux, J., 2012. Advancing Social Capital Interventions from a Network and Population Health Perspective. In I. Kawachi, S. Takao, & S. V. Subramanian, eds. *Global Perspectives on Social Capital and Health*. New York: Springer, pp. 189–205.
- Morgan, A. & Haglund, B.J.A., 2012. Researching social capital for young people's health. *Socialmedicinsk tidskrift*, 89(4–5), pp.441–567.
- Morgan, A. & Haglund, B.J.A., 2009. Social capital does matter for adolescent health: Evidence from the English HBSC study. *Health Promotion International*, 24(4), pp.363–372.

- Morgan, D.L., 2010. Reconsidering the role of interaction in analyzing and reporting focus groups. *Qualitative health research*, 20(5), pp.718–22.
- Morgan, M. et al., 2002. Hearing children's voices: methodological issues in conducting focus groups with children aged 7-11 years. *Qualitative Research*, 2(1), pp.5–20.
- Morrow, V., 1999. Conceptualising social capital in relation to the well-being of children and young people: a critical review. *Sociological Review*, 47(4), pp.744–765.
- Morrow, V., 2001. *Networks and Neighbourhoods: Children's and Young People's Perspectives*,
- Morrow, V., 2005. Social Capital, Community Cohesion and Participation in England: A space for children and young people? *Journal of Social Sciences*, 9, pp.57–69.
- Portes, A., 1998. Social Capital: Its Origins and Applications in Modern Sociology. *Annual Review of Sociology*, 24(1), pp.1–24.
- Putnam, R., 2000. *Bowling alone: The Collapse and Revival of American Community*, New York: Simon & Schuster Paperbacks.
- Putnam, R., 1995. Tuning in, tuning out: The strange disappearance of social capital in America. *Political Science and politics*, 28(4), pp.664–683.
- Ringsmose, C. & Krag-Müller, G., 2017. How Positive Childhood Experiences Promote Children's Development of Democratic Skills in Denmark. In C. Ringsmose & G. Kragh-Müller, eds. *Nordic Social Pedagogical Approach to Early Years*. Switzerland: Springer, pp. 189–205.
- Schaefer-McDaniel, N., 2004. Conceptualizing Social Capital among Young People. *Children, Youth and Environments*, 14(1), pp.140–150.
- Simovska, V., 2004. Student participation: A democratic education perspective - experience from the health-promoting schools in Macedonia. *Health Education Research*, 19(2), pp.198–207.
- Stevens, P.E., 1996. Focus groups: collecting aggregate-level data to understand community health phenomena. *Public health nursing*, 13(3), pp.170–176.
- Weller, S., 2006. Skateboarding Alone? Making Social Capital Discourse Relevant to Teenagers' Lives. *Journal of Youth Studies*, 9(5), pp.557–574.

Table 1: Participants characteristics in the focus group interviews

School	Focus groups*	Number of children	Gender
School A	Group 1	5	2 boys and 3 girls
School A	Group 2	4	2 boys and 2 girls
School A	Group 1	4	3 boys and 1 girl
School A	Group 2	4	2 boys and 2 girls
School B	Group 1	4	2 boys and 2 girls
School B	Group 2	5	3 boys and 2 girls
School B	Group 1	4	2 boys and 2 girls
School B	Group 2	4	2 boys and 2 girls
School B	Group 1	5	2 boys and 3 girls
School B	Group 2	5	3 boys and 2 girls

\* group 1 refers to 'active' and group 2 refers to 'less active' based on the teachers' assessment of the children being either 'less active children' or 'more active children'.

Table 2: Interview themes and activities in the study of children’s participation and social capital in everyday school situations in the school context

Interview themes	Activities
1. Children’s participation in everyday school situations	Open-ended questions about children’s participation and photo sorting activity
2. Children’s participation and ‘sense of belonging’	Open-ended questions about children’s participation and photos and a school map activity
3. Children’s participation and ‘social network and trust and reciprocity’	
3.1 Pupil-adult networks	Open-ended questions about children’s participation related to trust and reciprocity in networks between pupils and adults at the school
3.2 Peer networks	Open-ended questions about children’s participation related to trust and reciprocity in peer networks

Figure 1: Relationships between children’s participation and the mechanisms for generating social capital in everyday school situations in the school setting.

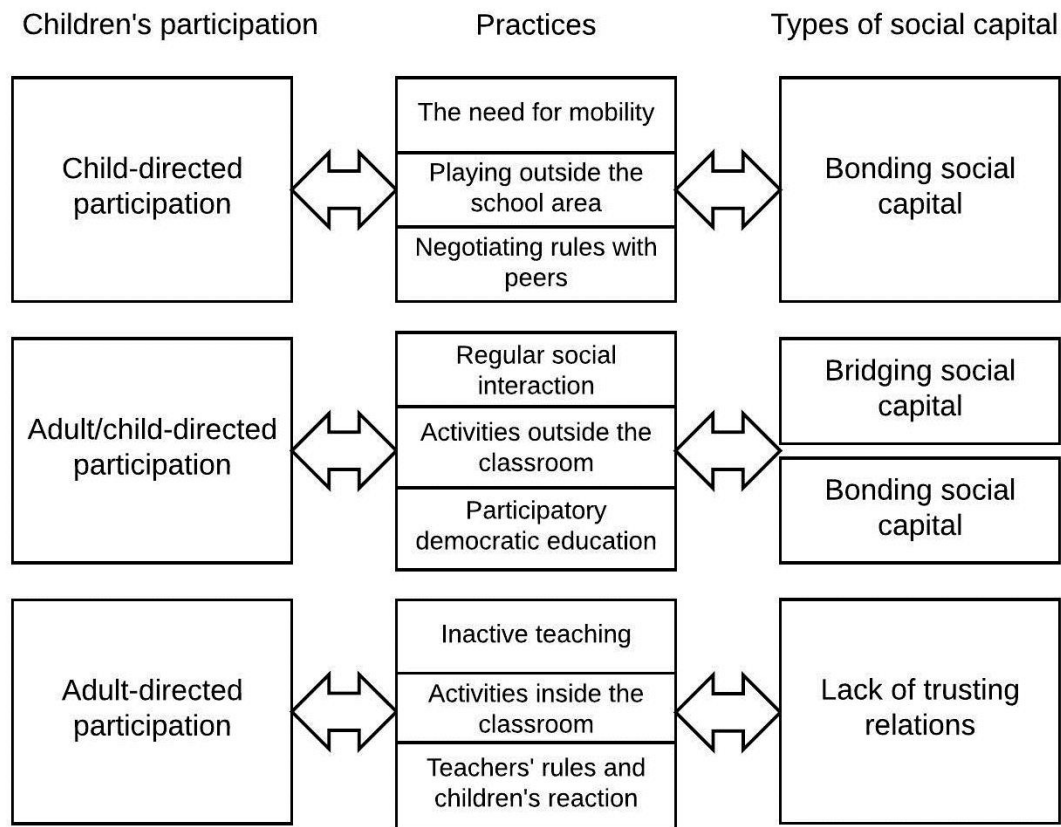


Figure legend: The figure illustrates the dynamic interrelating process between the three identified forms of child participation and practices or mechanisms that interlinks with the different types of social capital.



## **Paper II**

**Building school-based social capital through 'We Act - Together for Health' – a quasi-experimental study**





**Title: Building school-based social capital through ‘We Act - Together for Health’ – a quasi-experimental study**

**Authors:** Nanna W. Stjernqvist<sup>1,3\*</sup>, Marianne Sabinsky<sup>2</sup>, Antony Morgan<sup>4</sup>, Ellen Trolle<sup>1</sup>, Camilla Thyregod<sup>5</sup>, Helle T. Maindal<sup>3,7</sup>, Ane H. Bonde<sup>3</sup>, Inge Tetens,<sup>2,6</sup>

<sup>1</sup> Division of Risk Assessment and Nutrition, National Food Institute, Technical University of Denmark, 2800 Kgs. Lyngby, DK

<sup>2</sup> Division for Diet, Disease Prevention and Toxicology, National Food Institute, Technical University of Denmark, 2800 Kgs. Lyngby, DK

<sup>3</sup> Diabetes Prevention Research, Steno Diabetes Center Copenhagen, 2820 Gentofte, DK

<sup>4</sup> Public Health, Glasgow Caledonian University in London 40 Fashion Street, Spitalfields, London, E1 6PX, UK

<sup>5</sup> Department of Applied Mathematics and Computer Science, Technical University of Denmark, Kgs. Lyngby, DK

<sup>6</sup> Present address: Vitality - Centre for Good Older Lives, Department of Nutrition, Exercise and Sports, University of Copenhagen, 1958 Frederiksberg C, DK

<sup>7</sup> Present address: Department of Public Health - Department of Health Services Research, Aarhus University, 8000 Aarhus, DK

**\*Correspondence to:** Nanna Wurr Stjernqvist, Division of Risk Assessment and Nutrition, National Food Institute, Technical University of Denmark, Kemitorvet, Building 201, room 115, 2800 Kgs. Lyngby, DK, Email: [naste@food.dtu.dk](mailto:naste@food.dtu.dk), phone: +45 29706169 (at all stages of refereeing and publication including post-publication)

Co-authors:

Marianne Sabinsky. Email: [masab@food.dtu.dk](mailto:masab@food.dtu.dk)

Antony Morgan. Email: [Antony.Morgan@gcu.ac.uk](mailto:Antony.Morgan@gcu.ac.uk)

Ellen Trolle. Email: [eltr@food.dtu.dk](mailto:eltr@food.dtu.dk)

Camilla Thyregod. Email: [camt@dtu.dk](mailto:camt@dtu.dk)

Helle Terkildsen Maindal. Email: [htm@ph.au.dk](mailto:htm@ph.au.dk)

Ane Høstgaard Bonde. Email: [ane.hoestgaard.bonde@regionh.dk](mailto:ane.hoestgaard.bonde@regionh.dk)

Inge Tetens. Email: [ite@nexs.ku.dk](mailto:ite@nexs.ku.dk)

## **Abstract**

**Background:** Social capital has been found to be positively associated with various health and well-being outcomes amongst children. Less is known about *how* social capital may be generated and specifically in relation to children in the school setting. Drawing on the social cohesion approach and the democratic health educational methodology IVAC (Investigation – Vision – Action – Change) the aim of this study was to examine the effect of the Health Promoting School intervention ‘We Act – Together for Health’ on children’s cognitive social capital.

**Method:** A quasi-experimental controlled pre- and post-intervention study design was conducted with 548 participants (mean age 11.7 years). Cognitive social capital was measured as: horizontal social capital (trust and support in pupils); vertical social capital (trust and support in teachers); and a sense of belonging in the school using questions derived from the Health Behaviour in School Children study. A series of multilevel ordinal logistic regression analyses was performed for each outcome to estimate the effect of the intervention.

**Result:** The analyses showed no overall significant effect from the intervention on horizontal social capital or vertical social capital at the six-month follow-up. A negative effect was found on the sense of belonging in the school. Gender and grade appeared to be important for horizontal social capital, while grade was important for sense of belonging in the school. The results are discussed in relation to We Act’s implementation process, our conceptual framework and methodological issues and can be used to direct future research in the field.

**Conclusion:** The study finds that child participation in health education can affect the children’s sense of belonging in the school, though without sufficient management support, this may have a negative effect. With low implementation fidelity regarding the Action and Change dimension of the intervention at both the school and class level, and with measurement issues regarding the concept of social capital, more research is needed to establish a firm conclusion on the importance of the children’s active participation as a source for cognitive social capital creation in the school setting.

**Trial registration:** <https://www.isrctn.com/ISRCTN85203017>

## **Keywords**

Social capital, sense of belonging, children, school, Health Promotion School, intervention, quasi-experimental design, multi-level logistic regression

## 1 **Background**

2 An increasing number of studies point towards a positive association between social capital and various  
3 health and well-being outcomes in children. Positive outcomes have been found for well-being [1–3]; body  
4 mass index (BMI) [4]; physical activity [5–7]; and mental health and behavioural problems [8]. Social capital  
5 in the school setting has also been found to ‘buffer’ against inequality in children’s mental health [9] and  
6 decrease the likelihood of regular smoking [10–12], though more inconclusive findings have been found  
7 for other health risk behaviours such as alcohol use [11, 12]. While its importance to child health seems  
8 well substantiated, less research has been conducted on how social capital may be generated in adults  
9 [13], and specifically, in relation to children in the school setting [14]. This is surprising given that schools  
10 represent important communities seen from the children’s perspective where children with different  
11 social backgrounds meet and where social capital is likely to develop [12]. The school setting moreover  
12 provides opportunities where specific interventions can be tested and linked to outcomes.

13

### 14 **1.1 Social capital in relation to children’s health and well-being in the school setting**

15 Social capital has been described as a resource that enhances the resilience and abilities of individuals and  
16 communities to maintain and sustain health and well-being by buffering against poor health and by  
17 providing social support and facilitating collective actions [15, 16]. In relation to children, evidence  
18 suggests that social capital and social support in the family and in the school context can operate as  
19 protective factors for their well-being [17, 18]. Social capital is a complex concept, which is what some  
20 argue gives its strength over other concepts [8]. Some of the debates are summarized here as way of  
21 background to the analysis in our study.

22 Firstly, social capital has been described as operating at an individual level (social network approach)  
23 and a collective level (social cohesion approach) [19]. These approaches should not be seen as mutually  
24 exclusive, and most of the published literature today recognises that it can operate at both levels [20].  
25 Secondly, within the health field, social capital has been most commonly framed and utilised within the  
26 context of the work of Robert Putnam [13, 21] – the social cohesion approach. Putnam defines social  
27 capital as “features of social life – networks, norms and trust – that enable participants to act together  
28 more effectively to pursue shared objectives” [22]. However, in the context of children, Putnam has faced  
29 criticism for neglecting their own agency as a means of generating and using their own social capital [23].  
30 As such, recent studies have drawn on the sociology of childhood to understand the implications of  
31 children’s agency in its construct and measurement [8, 24, 25]. Schaefer-McDaniel [25] emphasises  
32 children’s active agency and highlights three dimensions: ‘Social Networks and Sociability’, ‘Trust and  
33 Reciprocity’ and ‘Sense of Belonging/Place Attachment’. Where the first dimension is in line with the social

34 network approach highlighting an individual's ability to sustain and utilize one's social network, the second  
35 relates to the social cohesion approach as applied in this study emphasising trust and norms of reciprocity.  
36 The third refers to the degree to which an individual feels that he/she is part of a collective  
37 community/environment where he/she is important and has influence [25]. The relevance for the third  
38 dimension has also been highlighted by other studies [2, 23]. Thirdly, the literature has deepened our  
39 understanding of the different qualities of different networks and interactions. These include horizontal  
40 social capital, which is further subdivided into bonding and bridging social capital as well as vertical social  
41 capital, which has also been described as 'linking' social capital [26–28]. Horizontal social capital tends to  
42 reflect ties that exist among people or groups of equals or near equals. By contrast, vertical social capital  
43 reflects ties of hierarchical or unequal individuals or groups who have different access to resources and  
44 power [26, 27]. Applied to the school setting, horizontal social capital therefore refers to the ties of  
45 children of equals such as classmates, whereas vertical social capital reflects the ties of unequal, such as  
46 children and teachers [10, 29].

47 Fourthly, in line with the different types of social capital, an empirical distinction has been made between  
48 cognitive and structural social capital. Structural social capital reflects an individual's connectedness to a  
49 given community (e.g. participation in organisations), or what people 'do', whereas cognitive social capital  
50 reflects subjective feelings of trust, norms of reciprocity, connectedness or what people 'feel' [30]. Applied  
51 to the school setting, structural social capital may refer to child-school relations and participation in  
52 networks such as participation in extracurricular activities, school clubs or after-school centres. Cognitive  
53 social capital, on the other hand, relates to a child's subjective perceptions of trust and support and the  
54 sense of belonging that arises from these interactions and networks [10, 29]. It is almost impossible for an  
55 individual study to embrace the complexities of social capital by including the range of distinctions and  
56 sophistications made in the literature. Rather, individual studies can make individual contributions to the  
57 pieces of the jigsaw.

58 This study takes a social cohesion approach and focuses on the cognitive component of social capital  
59 delineating between horizontal social capital (trust and support in pupils), vertical social capital (trust and  
60 support in teachers) and sense of belonging in the school [2, 25].

61

## 62 **1.2 Social capital generation and the health promoting school intervention 'We Act – Together for** 63 **health'**

64 Putnam emphasises regular social interaction through formal and informal participation as main sources  
65 of social capital [31] and argues that "generally speaking, the more we connect with other people, the  
66 more we trust them, and vice versa" [32]. Social capital literature that focuses on how it can be generated

67 often distinguishes between interactional processes involved in people interacting and the structural (or  
68 organisational) processes that are required to make the connections happen [33–35]. One framework that  
69 embraces these two distinct but related processes is the Health Promoting School (HPS) approach [36].  
70 Children’s active participation is central to this approach, but equally important is the structural processes  
71 that focus on the school’s social and physical environments, active engagement with parents/and or  
72 community and health education that are required to facilitate this. In Europe, the approach is inspired by  
73 democratic health education, which emphasises the children’s genuine participation and health education  
74 that are based on a broad and positive concept of health [37]. To operationalise this within the school  
75 setting, Jensen [37] developed a practical health pedagogical methodology termed Investigation – Vision  
76 – Acting – Change (IVAC). Previous qualitative research already found HPS to be conducive for building  
77 social capital in the school setting [33, 34], but to our knowledge, no prior research has tested the effect  
78 of HPS and the IVAC methodology on the generation of children’s cognitive social capital.

79 This study explores these relationships based on the HPS intervention ‘We Act – Together for health’  
80 (hereafter We Act) conducted in 2016. The intervention was developed for and targeted schoolchildren  
81 (grades 5-6) in the Danish school setting. The aim of the We Act intervention was to improve the dietary  
82 habits, physical activity, well-being and social capital among school children aged 10-12 years by increasing  
83 their health experiences and promoting a healthy school environment [38]. At the class level, we  
84 hypothesised that the children’s participation in We Act would facilitate horizontal social capital, vertical  
85 social capital, and a sense of belonging in the school among the children. Participation was anticipated to  
86 be facilitated through interactional processes of authentic dialogue, real-life and social activities mixing  
87 peers, children's influence on content and process and working outside the classroom.

88 At the school level, we hypothesised that school staff and parent participation in We Act would facilitate  
89 the same social capital outcomes among the children, which we anticipated were facilitated through  
90 organisational processes of school staff competence in democratic health education; school management  
91 commitment; parent support; and support from health committees to take actions (Figure 1 inspired  
92 by Glass et al. [39]). The overall aim of this study was thus to investigate the effect of We Act on the  
93 children’s cognitive social capital.

94 (Figure 1 is inserted here)

95

96 **2. Methods**

97 **2.1 Study design and participants**

98 A quasi-experimental controlled pre- and post-intervention study with a three-level cluster design was  
99 applied to examine the effect of We Act on the selected social capital outcomes. The sample consisted of  
100 656 children nested within 8 schools and 30 classes with children aged 10-12 years. The sample size was  
101 calculated in relation to the outcome dietary habits [Personal Communication Sabinsky et al., 20 October  
102 2017]. The schools were in both suburban and rural settings and varied in size (ranging from approximately  
103 300 to 1200 pupils). Moreover, the schools varied with respect to the children's socioeconomic  
104 background. Baseline data were collected using an online questionnaire between October and December  
105 2015. Follow-up data were collected six months later in May and June 2016.

106 **2.2 Allocation of schools to intervention and control schools**

107 Intervention schools and control schools were all located in Eastern Zealand in Denmark, chosen by  
108 convenience sampling. School recruitment material was sent to the municipality and/or the schools  
109 describing the intervention and the time required for participation. In total, recruitment material was sent  
110 to 27 municipalities and 210 schools. Altogether, four schools from four different municipalities signed up  
111 for the project. The four intervention schools were hereafter matched with four control schools. The  
112 control schools were selected among schools in the same municipality to make control schools as  
113 comparable as possible based on the rationale that schools within the same municipality are often exposed  
114 to the same political views and policies. Control schools were also matched on the size of the school and  
115 socioeconomic background of the families whose children attended the schools (assessed by a central  
116 person from the municipality responsible for the school area).

117 **2.3 Ethical issues**

118 The study adheres to Danish ethical standards and has been approved by the Danish Data Protection  
119 Agency, 18 April 2015, ref: 2015-41-4201. Participants were informed about the study's objective.  
120 Teachers, children and their parents were informed that participation was voluntary, that their  
121 information would be used for research purposes only and treated confidentially, and that they could  
122 withdraw at any stage of the study. No participants withdrew from the study.

123  
124 **2.4 Intervention**

125 To operationalise HPS, We Act included three components: a school component, a health educational  
126 component, and a parental component grounded on a broad and positive concept of health. All schools

127 received the same description of the components and time frame, though with flexibility in the time frame  
128 regarding the educational component. To operationalise democratic health education within the  
129 framework of the HPS, We Act built on the IVAC methodology [37] (Figure 2). Inspired by Paulo Freire’s  
130 [40] five-step strategy to facilitate authentic dialogue and empowerment, the IVAC methodology draws  
131 on a three-step circular pedagogical approach where pupils are actively involved in the decision-making  
132 process supported and encouraged by teachers [41]. We Act occurred at two organisational levels: the  
133 class level and at the school level. The circular process illustrates 1) the flexibility to move backwards and  
134 forwards between the different phases and 2) the process could be repeated each school year with new  
135 classes.

136 The school component comprised of four elements:

137 1) a We Act leaflet distributed before the intervention describing the objectives, the core principles, main  
138 activities including suggestions for the timetable and educational learning objectives, and the resources  
139 needed for implementation; 2) an introductory meeting with school principals, Danish language and  
140 mathematics teachers, and school nurses that aimed to prepare the conditions and agreeing upon the  
141 implementation process with the participants; 3) a competence workshop that aimed to train all  
142 participating staff; and 4) the establishment of a health committee with representatives from the school  
143 management team, teachers and health staff.

144 The educational component comprised of three health educational programs. These were developed  
145 to fulfil national educational objectives as well as national health educational objectives for grades 5 and  
146 6 to avoid adding an extra burden to the schools. The programs followed the IVAC methodology. First, an  
147 Investigation phase where pupils investigate and critically discuss their physical activity with step counters  
148 (IMOVE) and their food intake and meal habits with a log book (IEAT). Second, a Vision phase (Vision  
149 Workshop) beginning with brainstorming, then voting democratically about visions for a HPS, group work  
150 based on their self-selected visions, and finally presenting their visions to an external audience outside the  
151 class (school management, parents and other classes). Hereafter, an Action & Change phase followed,  
152 where pupils work for the realisation of their visions supported by teachers, pedagogues, school  
153 management, the health committee and ideally the broader community. The complete educational  
154 component included 40 lessons over a period of 2-4 months.

155 The parental component comprised of five elements: 1) an application (app) for the Android and iOS  
156 platforms (HealthyKids APP), where parents can get inspiration for packed lunches; 2) a Facebook group;  
157 3) a homepage where parents can get inspiration and exchange ideas; 4) a hand out – “My food and meals  
158 in the school” where children work on a pre-printed handout personalising it with respect to their



159 individual preferences to be taken home and discussed with parents; and 5) lunch boxes provided to all  
160 participating pupils to increase awareness of the lunch meal at home.

161 (revised Figure 2 is inserted here)

162

### 163 **2.5 Pilot study**

164 The different components of We Act were pilot-tested prior to implementation in collaboration with a  
165 Danish public school and a participating 5th grade class with 24 pupils and 2 teachers. Participatory  
166 observation, interviews with participating teachers and focus-group interviews with children were  
167 performed to investigate the workability of the components in the school setting in relation to the main  
168 principles of We Act. The findings suggested corrections to the procedure, assignments and time allocation  
169 for the educational process in the Investigation phase and in the Vision workshop, which were  
170 incorporated in the final version of the material. The school component was not tested in the pilot school  
171 as intended because the pilot school declined to participate in a process with a health committee in charge  
172 of an IVAC methodology at school level (parallel with IVAC at the class level). The reasons for declining  
173 were time constraints and a lack of resources. Because of this, and reluctance by other schools in the  
174 recruitment process to participate in a larger school health policy process, the school component was  
175 decreased to set-up a health committee aimed at supporting actions in the transformation from Vision to  
176 Action and Change. The parental component was tested with parents at another school.

177

### 178 **2.6 Evaluation study**

179 Parallel to the implementation of We Act, a process evaluation study was conducted at the intervention  
180 schools. The purpose of this process evaluation study was to evaluate the implementation fidelity to the  
181 proposed We Act intervention components and principles, and identify the interacting context factors.  
182 Data were collected concurrently and evenly at the four schools by field visits, questionnaires, interviews  
183 and follow-up interviews during the next school term. The evaluation showed that implementation fidelity  
184 to the first phases of the educational component, the Investigation phase and Vision phase, was quite high  
185 across all four schools at the class level, though the core principal of pupil participation may not have been  
186 'genuine' in the investigation phase. The implementation fidelity to the Action and Change phase at class  
187 level was on the contrary low across all four schools with a few exceptions. The implementation fidelity to  
188 the school component was low regarding the support to transition from Vision to Action and Change  
189 phase. The reach and implementation of the parental component was low across all four schools [Personal  
190 Communication, Bonde, 3 February 2018].

191 **2.7 Cognitive social capital**

192 An outcome measurement was made using the WHO’s ‘Health Behaviour in School Children’ (HBSC) 2014  
 193 survey. Nine questions from the 2014 HBSC Danish contribution were selected reflecting child cognitive  
 194 social capital in the school setting. These questions consisted of three latent variables representing the  
 195 following three sub-indices: horizontal social capital (three items), vertical social capital (three items) and  
 196 sense of belonging in the school (three items). The questions were derived reflecting both the theoretical  
 197 construct and previous empirical operationalisations of child-perceived cognitive social capital in the  
 198 school setting for children aged 10-12 years. The horizontal social capital index built on the work of De  
 199 Clercq et al. [10]. The vertical social capital index builds on a teacher support scale derived from the HBSC  
 200 international study protocol. The consistency of both scales was found through exploratory factor analysis  
 201 [10, Personal Communication, Rasmussen, 29 May/2018]. Lastly, a third index of perceived cognitive social  
 202 capital was constructed inspired by Schaefer-McDaniel [25] and Morgan and Haglund’s [2] emphasis on  
 203 the importance of including children’s sense of belonging within the school environment. To measure the  
 204 internal consistency of the indices, the coefficient of reliability - Cronbach Alpha values - were calculated  
 205 for each index (Table 1). To make an easy interpretation while recognising the original ordinal response  
 206 categories, the three indices were constructed as ordinal indices in line with Nielsen et al. [9] based on the  
 207 number of times a respondent had answered “agree” or “strongly agree”. Hence, 1 point was given if the  
 208 responder answered “agree” or “strongly agree”, and 0 points were given for negative or neutral  
 209 responses. The three indices thus gave each responder 0-3 points. Hereafter, the three indices were  
 210 categorised into ‘high’ =3, ‘moderate’ =2 and ‘low’ =1 or 0, following Nielsen et al. [9] and applied as ordinal  
 211 variables as we do not know the distance between high/3, moderate/2 and low/1 and 0.

212

213 Table 1. Social capital items included in the analysis.

Social capital items	Questions <sup>1</sup>	Cronbach Alpha
<i>Cognitive</i>		
Horizontal social capital	The students in my class enjoy being together* The students in my class are kind and helpful* Other students accept me as I am*	0.716
Vertical social capital	I feel that my teachers accept me as I am* I feel my teachers are interested in me as a person* I feel a lot of trust in my teachers*	0.808

Sense of belonging in  
the school

I feel I belong at this school\*  
Our school is a nice place to be\*  
I feel safe at this school\*\*

0.846

\*[strongly agree, agree, neither agree nor disagree, disagree, strongly disagree], \*\*[always, most of the time, sometimes, rarely, never]

1) All questions and response categories derive from HBSC International protocols [Personal communication, Rasmussen, 28 May/2018] and has been translated into Danish following the standardised translation guidelines [42].

214

## 215 **2.8 Measures of covariates**

216 Recognising the potential confounding effect, we adjusted for gender, age, migration status and for  
217 socioeconomic status (SES) at the individual level using the items from the standardised HBSC. Migration  
218 status was based on a pupil's place of birth and their mother and father's place of birth. This was  
219 categorised into native Danish (child born in Denmark and one or both parents born in Denmark), and non-  
220 native Danish. The latter included first-generation immigrants (both child and parents born abroad) and  
221 second-generation immigrants (child born in Denmark and parents born abroad). The child's SES was  
222 measured by the parents' occupational social class scheme (OSC) [43]. Pupils were asked the following  
223 questions: "Does your mother (father) have a job? If yes, write exactly what job she (he) does. Please say  
224 where she (he) works?" The children's responses were coded by the research team in accordance with the  
225 HBSC coding recommendation. Nine categories were used for both father and mother. These categories  
226 have many similarities with the Registrar General Social Class measures [44]. Based on the highest ranking  
227 parent, each child was coded into a family social group ranging from high (I-II), medium (III-IV), low (V+  
228 economically inactive) and unclassifiable. At the class-level, we adjusted for grade. To account for the  
229 effect of the intervention, an 'intervention variable' was constructed as a categorical-variable that assigned  
230 "one" to the control schools and "two" to the intervention schools.

231

## 232 **2.9 Statistical analysis**

233 Multilevel ordinal logistic regression analysis was used to estimate the effect of the intervention assuming  
234 proportional odds. The hierarchical nature of the data where pupils (level 1) are nested within classes  
235 (level 2) that are nested within schools (level 3) provided the rationale for using a multi-level modelling  
236 analysis, while the ordinal nature of the outcome variables provided the rationale for the use of ordinal  
237 logistic regression analysis assuming proportional odds. However, generally it was not possible to estimate  
238 the variance component associated to variation between schools (level 3) due to a non-positive definite G

239 matrix. We assume that this is because the amount of total variation explained by the schools is negligible  
240 compared with the variation explained by the class and individual levels. We calculated the amount of  
241 total variation at class level using the variance partition coefficient (VPC) and the latent variable method,  
242 where  $\pi^2/3$  is the variance between individuals [45]. To get a proper error structure, classes were nested  
243 with the variable intervention in the statistical models.

244 A series of models estimating the children's probability (odds ratio (OR)) of reporting higher horizontal  
245 social capital, higher vertical social capital and higher sense of belonging in the school were then fitted  
246 following the bottom-up approach in line with Smiley et al. [46]. Hence, a series of models were built up  
247 step-by-step, testing for both random effects and fixed effects (covariates mentioned in Section 2.8) using  
248 a 5% level of significance and two-sided tests. Baseline values for the respective social capital outcome  
249 were also included to adjust for potential differences at baseline. Non-significant covariates (except for  
250 the effect of the intervention) were generally removed from the models. Testing was also done for  
251 interactions between all significant covariates and the intervention. All multilevel models were fitted in  
252 SAS using the PROCGLIMMIX procedure. The Akaike Information Criterion (AIC) and the more conservative  
253 Bayesian Information Criterion (BIC) were used to compare the model fit and find the best fitting model  
254 for the data.

255

### 256 **3. Results**

#### 257 ***3.1 Intervention participants and baseline characteristics***

258 The final baseline sample included four intervention schools with 12 classes and a total of 289 children  
259 compared with four control schools with 16 classes and 353 children. Two classes and a total of 14 children  
260 were excluded from the intervention group as these classes were special classes and not part of the target  
261 group (Figure 3). The response rates for the baseline sample were 94.1% for intervention schools and  
262 91.5% for control schools. The response rates for the follow-up analysis were 88.6% for intervention  
263 schools and 82.7% for control schools. The dropout analysis showed an overall consistency with respect to  
264 the included covariates and outcome measures between the group of children who only responded to the  
265 baseline and to the group of children who responded to both baseline and follow-up (Additional File 1).  
266 The children who did not participate in the follow-up analysis (absent from school, sick, or who did not  
267 want to participate) were, however, more likely to report 'low' and 'moderate' vertical social capital  
268 compared with the group of children who responded to both baseline and follow-up ( $p=0.05$ ) (Additional  
269 File 1). Table 2 describes the individualistic baseline characteristics of pupils at intervention and control  
270 schools showing general consistency. Children from the control schools were, however, more likely to be

271 6th grade and older compared with children from intervention schools ( $p=0.002$ ).

272 [Figure 3 is inserted here]

273 Table 2. Baseline individualistic characteristics of children by intervention and control schools.

	Intervention n=272	Control n=323	p-value
Age, years [mean (SD)]	11,6 (0,68)	11,8 (0,66)	0.11 <sup>b</sup>
Class level			0.002 <sup>a**</sup>
5th grade	190 (70)	187 (58)	
6th grade	82 (30)	136 (42)	
Gender			0.71 <sup>a</sup>
Boys	129 (47)	155 (48)	
Girls	143 (53)	168 (52)	
Migration status			0.51 <sup>a</sup>
Native Danish	227 (83)	279 (86)	
Non-native	45 (17)	44 (14)	
Danish			
Family social group			0.89 <sup>a</sup>
SES high	94 (34)	113 (35)	
SES medium	104 (38)	120 (37)	
SES low	37 (14)	51 (16)	
Unclassifiable	37 (14)	39 (12)	

274 <sup>a</sup> based on chi-square test and a significant level of 0.05

275 <sup>b</sup> based on independent t-test and a significant level of 0.05

276 \* $p \leq 0.05$ ; \*\* $p \leq 0.01$ ; \*\*\* $p \leq 0.001$

277

### 278 **3.2 Effect of We Act on horizontal social capital**

279 After six months, there was no significant difference between the intervention and control groups for  
280 horizontal social capital (Table 3). This is also indicated in the percentage distribution between the two  
281 groups (intervention and control) at follow-up and the effect estimate (Table 3). We did not find any  
282 significant effect of interaction between the intervention and significant level 1 and level 2 covariates on  
283 the outcome. The VPC showed that 11.3% of the individual's horizontal social capital was attributed to  
284 class level (statistics not shown). While no significant differences were found between the intervention  
285 and control group's perception of horizontal social capital at the six-month follow-up, boys (from both  
286 groups) were almost two times more likely to report higher horizontal social capital compared with girls  
287 (boys OR = 1.77 (1.22-2.58)). In addition, pupils (from both groups) from the 6th grade were less likely to  
288 report higher horizontal social capital at the six-month follow-up compared with pupils from the 5th grade  
289 (6th grade OR = 0.51 (0.29-0.89)) (statistics not shown). Pupils (from both groups) who responded  
290 'moderate' or 'high' horizontal capital at baseline were furthermore significantly more likely to report

291 higher horizontal social capital at follow-up compared with pupils who responded ‘low’ horizontal social  
 292 capital at baseline (‘high’ OR = 9.91 (6.01-16.37) and ‘moderate’ OR = 3.76 (2.18-6.48)) (statistics not  
 293 shown).  
 294

Table 3. Effect of We Act on horizontal social capital at the six-month follow-up.

	Horizontal social capital (%)				Effect (Intervention vs. Control) <sup>a</sup>	
	Baseline		Follow-up		OR (95% CI)	p-value
Overall n=548	Intervention	Control	Intervention	Control		
Intervention					0.82 (0.47 -1.46)	0.492
Horizontal social capital						
	High	63	56	61	62	
	Moderate	21	26	16	17	
	Low	16	18	23	21	

OR = odds ratio

\*p≤0.05; \*\*p≤0.01; \*\*\*p≤0.001

<sup>a</sup>) At the individual level, the model adjusted for gender, age, migration status, baseline values for horizontal social capital and for SES. At the class level, the model adjusted for grade, while at the school level, the model adjusted for the intervention. Gender, grade and the baseline values for horizontal social capital appeared as significant covariates in the final model.

295

### 296 **3.3 Effect of We Act on vertical social capital**

297 At the six-month follow-up, there was no significant difference between the intervention and control  
 298 groups for vertical social capital (Table 4), though the percentage distribution from baseline to follow-up  
 299 for the intervention group indicates a change in a negative direction with a small effect estimate. In  
 300 addition, no significant effects of interactions with the intervention and the significant level 1 and level 2  
 301 covariates were found. The VPC showed that 11.7% of the individual’s vertical social capital was attributed  
 302 to classes (statistics not shown). Children (from both groups) who responded ‘moderate’ or ‘high’ vertical  
 303 social capital at baseline were more likely to report higher vertical social capital at follow-up compared  
 304 with children who responded ‘low’ vertical social capital at baseline (‘high’ OR = 15.35 (8.58-27.49) and  
 305 ‘moderate’ OR = 3.33 (1.76-6.29)) (statistics not shown).

Table 4. Effect of We Act on vertical social capital at the six-month follow-up.

	Vertical social capital (%)				Effect (Intervention vs. Control) <sup>a</sup>	
	Baseline		Follow-up		OR (95% CI)	p-value
Overall n=548	Intervention	Control	Intervention	Control		
Intervention					0.67 (0.37-1.22)	0.183
Vertical social capital						
High	72	71	66	69		
Moderate	16	15	13	16		
Low	11	14	21	15		

OR = odds ratio

\*p≤0.05; \*\*p≤0.01; \*\*\*p≤0.001

<sup>a</sup>) At the individual level, the model adjusted for gender, age, migration status, baseline values for vertical social capital and for SES. At the class level, the model adjusted for grade, while at the school level, the model adjusted for the intervention. The baseline values for vertical social capital appeared as a significant covariate in the final model.

306

### 307 **3.4 Effect of We Act on sense of belonging in the school**

308 At the six-month follow-up, there was a significant difference between the intervention and control groups  
309 for sense of belonging in the school (Table 5). In contrast to our hypothesis, pupils from intervention  
310 schools were significantly less likely to report a higher sense of belonging in the school at follow-up  
311 compared with children at control schools with a medium effect estimate (Intervention OR = 0.54 (0.37-  
312 0.79)). This is also illustrated in the percentage distribution between the two groups at follow-up. The VPC  
313 for the classes showed that 9% of the individual's sense of belonging in the school was attributed to classes  
314 (statistics not shown). Furthermore, children (from both groups) from the 6th grade were less likely to  
315 report a higher sense of belonging in the school at follow-up compared with pupils from the 5th grade (6th  
316 grade OR = 0.53 (0.30-0.92)) (statistics not shown). Children (from both groups) who reported a 'high' or  
317 'moderate' sense of belonging in the school at baseline were significantly more likely to report a higher  
318 sense of belonging in the school at the follow-up compared with children who reported a 'low' sense of  
319 belonging in the school at baseline ('high' OR = 12.83 (8.09-20.34) and 'moderate' OR = 2.55 (1.44-4.50))  
320 (statistics not shown).

321

322

323

Table 5. Effect of We Act on sense of belonging in the school at the six-month follow-up.

	Sense of belonging in the school (%)				Effect (Intervention vs. Control) <sup>a</sup>	
	Baseline		Follow-up		OR (95% CI)	p-value
Overall n=547	Intervention	Control	Intervention	Control		
Intervention					0.54 (0.37-0.79) **	0.002
Sense of belonging in the school						
High	63	67	56	65		
Moderate	13	13	13	17		
Low	23	20	31	18		

OR = odds ratio

\*p≤0.05; \*\*p≤0.01; \*\*\*p≤0.001

<sup>a</sup>) At the individual level, the model adjusted for gender, age, migration status, baseline values for sense of belonging and for SES. At the class level, the model adjusted for grade, while at the school level, the model adjusted for the intervention. Grade and baseline values for sense of belonging in the school appeared as significant covariates in the final model.

324

325

#### 326 4. Discussion

327 The current study examined the effect of the We Act intervention on the children's cognitive social capital.

328 No statistically significant effect of We Act on children's probability of reporting higher horizontal social

329 capital or higher vertical social capital was found at follow-up, though what can be considered a small

330 negative effect estimate [47] was found on vertical social capital. Contrary to our hypothesis, a negative

331 significant effect from We Act was found on the children's probability of reporting a higher sense of

332 belonging in the school at follow-up – with an effect size of medium size according to Sullivan [47].

333 The analysis moreover showed some differences between boys' and girls' horizontal social capital. The

334 influence of gender on horizontal social capital where boys report higher trust and support in other pupils

335 compared with girls is in line with other studies [18, 48]. The influence from grade on horizontal social

336 capital has also been found in another study [49], which showed an interaction between grade and gender.

337 This influence points towards a need to theoretically consider both gender and grade when working with

338 horizontal social capital as different norms and behavioural characteristics are likely to persist between

339 boys and girls in this age group. Moreover, grade seems to be important for the children's sense of

340 belonging in the school where children from the 6th grade in this study were less likely to report a higher

341 sense of belonging in the school compared with pupils from the 5th grade at follow-up. This is in line with

342 another study on school connectedness [50], which has to be accounted for in future studies.



343 To our knowledge, no prior study has tested the effect of HPS and the IVAC methodology on children's  
344 cognitive social capital in the school setting. Therefore, it is difficult to make a comparison with other  
345 studies. An experimental study on the potential of the HPS to promote social capital showed evidence that  
346 the HPS approach is closely linked to improvement in social capital, measured by the Social Capital Index,  
347 in a primary school context. This study, however, only reported on school staff's perceived social capital  
348 [51]. Other concepts, such as *school connectedness* or *school bonding*, are used in relation to theories such  
349 as Attachment Theory, Social Control Theory and Social Development Model [52]. With respect to the  
350 concept school connectedness, we argue that this is similar to the conceptualisation of social capital used  
351 in the current study though it does raise an issue of linguistic confusion in the literature. An experimental,  
352 comprehensive school-based intervention study designed to reduce risk and promote resilience among  
353 students (11-14 years of age) through development of a caring community showed positive effects on the  
354 items 'sense of the school as a community' and 'trust and respect in teachers' [53]. This stands in contrast  
355 to the findings of the current study, though the study by Battistich et al. [53] is limited by missing data,  
356 which made it difficult to conduct repeated measurement analysis. A similar finding appears in a Danish  
357 experimental, comprehensive school intervention study [54]. Designed to promote student (average  
358 student age 21) well-being and reduce smoking in vocational schools, Andersen et al. [54] found significant  
359 improvement in school connectedness at the 10-week follow-up in the intervention group. They also  
360 examined the effect on student support and teacher relatedness using similar scales as those applied in  
361 the current study, but did not find any effect of the intervention on these items.

362 It is important to consider why a negative effect on the sense of belonging in the school is found in the  
363 current study, contrary to our stated hypothesis and findings from previous studies, and to reflect on why  
364 no effect is found on the horizontal and vertical social capital. This will be discussed in relation to We Act's  
365 implementation process; our conceptual framework and methodological issues.

366 Looking towards the evaluation study, the implementation fidelity to the school component was low  
367 regarding the support to the transition from Visions to Action and Change phase where the health  
368 committee was supposed to support the children's actions. At the class level, the implementation fidelity  
369 to the Action and Change phase was also low regarding teachers supporting the children's actions. The  
370 implementation fidelity regarding the parental component was also low. By the time of the follow-up  
371 measures, very few collective actions had occurred both at class level and school level. It is likely that the  
372 missing support from both teachers and the management level influenced the pupils who may have felt  
373 disillusioned when realising that the teachers and school management were not going to support the  
374 process further. Looking at students' sense of community in the school, similar to the sense of belonging  
375 in the school, Vieno et al. [55] found that students' (11-15 years of age) perception of a democratic school

376 climate was a significant simultaneous and independent predictor of school sense of community. Thus, it  
377 is likely that the missing actions may have resulted in low perceptions of participation in rules making,  
378 which have affected the sense of belonging in the school, negatively. Similar negative consequences have  
379 been found in other studies that have worked with active involvement of pupils in school health activities  
380 in relation to pupils' perspective [56]. The low degree of implementation fidelity does not, however,  
381 exclude flaws in our theoretical conceptualisation. It is likely that the reason for the low degree of  
382 implementation fidelity regarding supporting the children's actions at both class and school level is due to  
383 insufficient support and guidance for this phase. Rowe and Stewart [33] highlight specific activities at  
384 school level that involve the entire school such as eating together or cross-class activities at class level as  
385 being particularly conducive for generating school social capital. In the teacher guide for the Action and  
386 Change phase, suggestions such as these were provided (i.e., preparing a dinner and being host for other  
387 classes). However, less guidance and structural support were given for the health committee at the school  
388 level and for the teachers at the class level. It is likely that the amended and decreased school-level  
389 component may have turned out to be a burden for the schools while also being too weak structurally to  
390 support the children's genuine participation and the facilitation of collective actions based on the  
391 children's visions, which nevertheless seem to be particularly important. A more innovative mechanism,  
392 such as the setting-up of action groups involving students and school staff (supported by an external  
393 facilitator e.g. from the municipality), may have proved more efficient as an organisational support  
394 mechanism promoting continuity with the children's visions and active participation and ensuring  
395 intervention-retained integrity as a whole-school approach [57].

396 Moving on to the methodological issues, the outcome measures and the categorisation into vertical  
397 and horizontal social capital were built on the validated HBSC questionnaire and previous exploratory  
398 factor analysis as well as sense of belonging in the school. That said, there is a recognised lack of consistent  
399 measurement in social capital research, especially in relation to children, which makes comparison difficult  
400 [17]. Specifically, the selected measures also pose methodological challenges in the context of an effect  
401 study as the distribution of the answers tends to be positively skewed with lack of sensitivity, which makes  
402 positive changes difficult to detect. However, in the current study, we would rather expect a negative  
403 effect considering the effect estimates on horizontal and vertical social capital and a moderate negative  
404 effect on sense of belonging in the school. Considering the small non-statistical effect estimate on vertical  
405 social capital in a negative direction (and an even smaller non-significant negative effect on horizontal  
406 social capital), a missing effect on horizontal and vertical social capital could also be related to the power  
407 of the study. The study may be under-powered when comparing to Andersen et al. [54], although a lack of  
408 effect on both horizontal and vertical social capital was also reported in Andersen et al. [54]. While these

409 explanations are likely to provide some insight into the unexpected findings and some comments on how  
410 to proceed in future research, a more generic problem of social capital theory is, according to Hooghe &  
411 Stolle [31], its lack of micro theoretical explanations to explain exactly which mechanisms are conducive  
412 for changes in trust and norms of reciprocity. In this study, we hypothesised social interactional and  
413 organisational processes at the school level and class level to provide one possible explanation. To advance  
414 the theory further, and avoid negative impact, additional conceptual studies are needed that can look  
415 more thoroughly into the mechanisms suggested to facilitate children's genuine participation in different  
416 contextual school settings.

417

### 418 **Strengths and limitations**

419 The We Act intervention study includes a strong theoretical framework and a robust quasi-experimental  
420 controlled pre- and post-intervention study design. It is therefore considered a strength over previous  
421 cross-sectional designs and qualitative designs, e.g., Rowe and Steward [33, 34]. The use of multilevel  
422 logistic regression analysis within a three-level cluster design is considered advantageous as logistic  
423 regression analysis respects the categorical nature of the items. The outcome measures and the  
424 categorisation into vertical and horizontal social capital building on the validated HBSC questionnaire and  
425 previous exploratory factor analysis as well as a sense of belonging in the school is also a strength.

426 As two of the four intervention schools were only represented by 5th grade classes and each school is  
427 either fully in the intervention or in the control group, the effect of the variables intervention group, school  
428 and grade level are partly confounded by design, which is considered a limitation. This indicates some  
429 reservation for the conclusion regarding the estimates of the intervention. Regarding selection bias, one  
430 may consider the possibility of positive selections as intervention schools were those that answered  
431 positively to our initial contact. This seems unlikely because the decision to sign up was primarily taken by  
432 the school principal and not by the teachers who implemented most of the intervention.

433

434

435

### 436 **5. Conclusion**

437 This study found no effect of We Act on child perceived horizontal social capital or vertical social capital.  
438 A negative effect of We Act was found on the children's sense of belonging in the school. Child participation  
439 in health education within the framework of the HPS can thus affect the children's sense of belonging,  
440 though without sufficient management support this may have a negative effect. Based on this study, we  
441 suggest that future studies pay more attention towards the structural and organisational level of HPS

442 interventions. Future studies may also consider looking critically at the sensitivity of the existing measures.  
443 Our findings suggest that within the Danish school context, gender and grade appear to be important for  
444 horizontal social capital, while grade alone is important for sense of belonging in the school. This stresses  
445 the need to consider both age and gender in relation to interventions aimed at generating children's  
446 cognitive social capital in the school.

447

#### 448 **Abbreviations**

449 HPS: Health Promoting School

450 IVAC: Investigation – Vision – Action – Change

451 We Act: We Act – Together for health

452 HBSC: Health Behaviour in School Children

453 BMI: Body Mass Index

454 OSC: Occupational Social Class scheme

455 AIC: Akaike Information Criterion

456 BIC: Bayesian Information Criterion

457 VPC: Variance Partition Coefficient

458 SES: Socioeconomic status

459 OR: Odds Ratio

460 WHO: World Health Organisation

461

#### 462 **Declaration**

##### 463 Ethical approval and consent to participate

464 The study adheres to Danish ethical standards and has been approved by the Danish Data Protection  
465 Agency, 18<sup>th</sup> April 2015, ref: 2015-41-4201, and reported to the regional ethics committee for the Capital  
466 Region of Denmark Protocol no.: H-7-2015-FSP1. They concluded that formal ethics approval was not  
467 required because no human biological material was collected. When schools were invited to participate,  
468 written information targeting the school leader and the teachers was sent to all schools explaining the  
469 implications of participation. Teachers, children and their parents at the participating schools were  
470 informed that participation was voluntary, that their information would be used for research purposes  
471 only and treated confidentially, and of the possibility of withdrawing during any stage of the study. Parents  
472 were informed by means of 1) written information on the parental e-platform (skoleintra.dk), indicating  
473 the implication for and involvement of their child. This platform is used daily by the parents and the school  
474 as a means of communication 2) a written a hand out was provided for the children to bring home to their

475 parents with information on the project and link to the project webpage. If the parents had further  
476 questions, they could contact the project manager.

477

#### 478 Consent for publication

479 “Not applicable”

480

#### 481 Availability of data and material

482 Based on the legal rules for protecting individual sensitive data in relation to research purposes as stated  
483 by the Danish Data Protection Agency that has authorized this study, the dataset used to analyse and  
484 conclude in the current study is only available from the corresponding author on a reasonable request.

485

#### 486 Competing interest

487 The authors declare that they have no competing interests.

488

#### 489 Funding

490 This study was funded by Nestlé, the Technical University of Denmark and Steno Diabetes Center  
491 Copenhagen. The PhD scholarship for Nanna Wurr Stjernqvist was co-financed by Steno Diabetes Center  
492 Copenhagen and the Technical University of Denmark. The funders had no role in the design, data  
493 collection, analysis, and interpretation of data.

494

#### 495 Authors' contribution

496 NWS contributed to conception and design, analysis and interpretation of data, drafting the article and  
497 revising it critically for important intellectual content.

498 MS contributed to acquisition of data, analysis and interpretation of data and critically revision.

499 AM contributed to conception and design and has critically revised the article for important intellectual  
500 content.

501 ET contributed to the analysis and interpretation of data including revising it critically for important  
502 intellectual content.

503 CT contributed to analysis and interpretation of data.

504 HTM contributed to conception and design and she has revised the content critically for important  
505 intellectual content.

506 AB contributed to the conception and design and has revised the content critically for important  
507 intellectual content.

508 IT contributed to conception and design analysis and interpretation of data including revising it critically  
509 for important intellectual content.

510 Acknowledgement

511 The authors would like to thank the pupils, teachers, school principals and other school staff for  
512 participating in the study. Furthermore, the authors would like to thank professor emeritus Bjørn Holstein  
513 and associate professor Mette Rasmussen from the Danish National Institute of Public Health for guidance  
514 regarding the HBSC questionnaire.

## Bibliography

1. Eriksson U, Hochwalder J, Carlsund A, Sellstrom E. Health outcomes among Swedish children: the role of social capital in the family, school and neighbourhood. *Acta Paediatr.* 2012;101:513–7.
2. Morgan A, Haglund BJA. Social capital does matter for adolescent health: Evidence from the English HBSC study. *Health Promot Int.* 2009;24:363–72.
3. Aminzadeh K, Denny S, Utter J, Milfont TL, Ameratunga S, Teevale T, et al. Neighbourhood social capital and adolescent self-reported wellbeing in New Zealand: A multilevel analysis. *Soc Sci Med.* 2013;84:13–21.
4. Richmond TK, Milliren C, Walls CE, Kawachi I. School Social Capital and Body Mass Index in the National Longitudinal Study of Adolescent Health. *J Sch Health.* 2014;84:759–68.
5. Button B, Trites S, Janssen I. Relations between the school physical environment and school social capital with student physical activity levels. *BMC Public Health.* 2013;13:1191.
6. Franzini L, Elliott MN, Cuccaro P, Schuster M, Gilliland MJ, Grunbaum JA, et al. Influences of physical and social neighborhood environments on children’s physical activity and obesity. *Am J Public Health.* 2009;99:271–8.
7. Prins RG, Beenackers MA, Boog MC, Van Lenthe FJ, Brug J, Oenema A. Neighbourhood social capital as a moderator between individual cognitions and sports behaviour among Dutch adolescents. *Soc Sci Med.* 2014;105:9–15.
8. McPherson K, Kerr S, McGee E, Morgan A, Cheater FM, McLean J, et al. The association between social capital and mental health and behavioural problems in children and adolescents: an integrative systematic review. *BMC Psychol.* 2014;2:7.
9. Nielsen L, Koushede V, Vinther-Larsen M, Bendtsen P, Ersboll AK, Due P, et al. Does school social capital modify socioeconomic inequality in mental health? A multi-level analysis in Danish schools. *Soc Sci Med.* 2015;140:35–43.
10. De Clercq B, Pfoertner T-K, Elgar FJ, Hublet A, Maes L. Social capital and adolescent smoking in schools and communities: A cross-classified multilevel analysis. *Soc Sci Med.* 2014;119:81–7.
11. Takakura M. Does social trust at school affect students’ smoking and drinking behavior in Japan? *Soc Sci Med.* 2011;72:299–306.
12. McPherson K, Kerr S, Morgan A, McGee E, Cheater FM, McLean J, et al. The association between family and community social capital and health risk behaviours in young people: an integrative review. *BMC Public Health.* 2013;13:971.
13. Eriksson M, Dahlgren L, Emmelin M. Collective actors as driving forces for mobilizing social capital in a local community: what can be learned for health promotion? In: Westlund, H. Kobayashi K, editor. *Social*

capital and rural development in the knowledge society. Cheltenham, UK: Edward Elgar Publishing; 2013. p. 273–98.

14. Virtanen M, Ervasti J, Oksanen T, Kivimäki M, Vahtera J. Social Capital in Schools. In: Kawachi I, Subramanian S V., Takao S, editors. *Global Perspectives on Social Capital and Health*. New York: Springer Science + Business Media; 2013.

15. Marmot M, Atkinson T, Bell R, Black C, Broadfoot P, Cumberlege J, et al. *Fair society, healthy lives - The Marmot Review*. London; 2010.

16. Eriksson M. Social capital and health -implications for health promotion. *Glob Health Action*. 2011;4:5611.

17. Morgan AR, Rivera F, Moreno C, Haglund BJA. Does social capital travel? Influences on the life satisfaction of young people living in England and Spain. *BMC Public Health*. 2012;12:138.

18. Knoop HH, Holstein BE, Viskum H, Lindskov JM. Elevernes fællesskab og trivsel i skolen Analyse af Den Nationale Trivselsmåling. Randers; 2017. <http://dcum.dk/media/2107/dcum-rapport-elevernes-trivsellow.pdf>.

19. Moore S, Kawachi I. Twenty years of social capital and health research: a glossary. *J Epidemiol Community Health*. 2017;71:513–7.

20. Kawachi I, Subramanian S V., Takao S. *Global perspectives on social capital and health*. New York: Springer Science + Business Media; 2013.

21. Kawachi I. Commentary: Social capital and health: Making the connections one step at a time. *Int J Epidemiol*. 2006;35:989–93.

22. Putnam R. Who killed Civic America? *Prospect*. 1996;7:66–72.

23. Morrow V. Conceptualising social capital in relation to the well-being of children and young people: a critical review. *Sociol Rev*. 1999;47:744–65.

24. Leonard M. Children, Childhood and Social Capital: Exploring the Links. *Sociology*. 2005;39:605–22.

25. Schaefer-McDaniel N. Conceptualizing Social Capital among Young People. *Child Youth Environ*. 2004;14:140–50.

26. Szreter S, Woolcock M. Health by association? Social capital, social theory, and the political economy of public health. *Int J Epidemiol*. 2004;33:650–67.

27. Islam MK, Merlo J, Kawachi I, Lindström M, Gerdtham U-G. Social capital and health: does egalitarianism matter? A literature review. *Int J Equity Health*. 2006;5:3.

28. Putnam R. *Bowling alone: The Collapse and Revival of American Community*. New York: Simon & Schuster Paperbacks; 2000.

29. De Clercq B, Abel T, Moor I, Elgar FJ, Lievens J, Sioen I, et al. Social inequality in adolescents' healthy



- food intake: the interplay between economic, social and cultural capital. *Eur J Public Health*. 2016;27:279–86.
30. Harpham T. *Measuring the social capital of children*. London; 2002.  
<http://r4d.dfid.gov.uk/pdf/outputs/younglives/r7874wp4.pdf>.
31. Hooghe M, Stolle D. *Generating Social Capital: Civil Society and Institutions in Comparative Perspective*. New York: Palgrave macmillan; 2003.
32. Putnam R. Tuning in, tuning out: The strange disappearance of social capital in America. *Polit Sci Polit*. 1995;28:664–83.
33. Rowe F, Stewart D. Promoting connectedness through whole school approaches: a qualitative study. *Health Educ*. 2009;109:396–413.
34. Rowe F, Stewart D. Promoting connectedness through whole school approaches: Key elements and pathways of influence. *Health Educ*. 2011;111:49–65.
35. Shoji MN, Haskins AR, Rangel DE, Sorensen KN. The emergence of social capital in low-income Latino elementary schools. *Early Child Res Q*. 2014;29:600–13.
36. Buijs G. SHE strategic plan 2013-2016. 2013. [http://www.schools-for-health.eu/uploads/files/SHE Strategic plan 2013-2016\\_ FINAL.pdf](http://www.schools-for-health.eu/uploads/files/SHE Strategic plan 2013-2016_ FINAL.pdf).
37. Jensen BB. A case of two paradigms within health education. *Health Educ Res*. 1997;12:419–28.
38. Sabinsky M. “We Act – together for health” - a school-based intervention to promote healthy diet, physical activity, and wellbeing in school children aged 10-12 years. *Bmc Public Health - ISRCTN Registration*. 2018. <https://www.isrctn.com/ISRCTN85203017>. Accessed 28 May 2018.
39. Glass TA, Freedman M, Carlson MC, Hill J, Frick KD, Ialongo N, et al. Experience Corps: Design of an Intergenerational Program to Boost Social Capital and Promote the Health of an Aging Society. *J Urban Heal*. 2004;81:94–105.
40. Freire P. *The Pedagogy of the Oppressed*. New York: Continuum; 2000.
41. Simovska V, Jensen BB. *Conceptualizing participation – the health of children and young people*. Copenhagen Ø; 2009.
42. Roberts C, Freeman J, Samdal O, Schnohr CW, Looze ME, Nic Gabhainn S, et al. The Health Behaviour in School-aged Children (HBSC) study: Methodological developments and current tensions. *Int J Public Health*. 2009;54:140–50.
43. Currie CE, Elton RA, Todd J, Platt S. Indicators of socioeconomic status for adolescents: the WHO Health Behaviour in School-aged Children Survey. *Health Educ Res*. 1997;12:385–97.
44. Christensen U, Krølner R, Nilsson CJ, Lyngbye PW, Hougaard CØ, Nygaard E, et al. Addressing Social Inequality in Aging by the Danish Occupational Social Class Measurement. *J Aging Health*. 2014;26:106–

27.

45. Snijders T, Bosker R. *Multilevel analysis, an introduction to basic and advanced modeling*. London: SAGE Publications; 1999.

46. Smiley W, Leighton E, Ene M, Bell BA. An intermediate Guide to Estimating Multilevel Models for Categorical Data using SAS® PROC GLIMMIX. 2015. <http://analytics.ncsu.edu/sesug/2015/SD-173.pdf>.

47. Sullivan GM, Feinn R. Using Effect Size—or Why the P Value Is Not Enough. *J Grad Med Educ*. 2012;4:279–82.

48. Billett P. *Youth social capital: getting on and getting ahead in life*, Doctor of Philosophy thesis. University of Wollongong; 2011.

49. Wentzel KR, Battle A, Russell SL, Looney LB. Social supports from teachers and peers as predictors of academic and social motivation. *Contemp Educ Psychol*. 2010;35:193–202.

50. Nielsen L, Shaw T, Meilstrup C, Koushede V, Bendtsen P, Rasmussen M, et al. School transition and mental health among adolescents: A comparative study of school systems in Denmark and Australia. *Int J Educ Res*. 2017;83:65–74.

51. Sun J, Stewart D. How effective is the health-promoting school approach in building social capital in primary schools? *Health Educ*. 2007;107:556–74.

52. Chapman RL, Buckley L, Sheehan M, Shochet I. School-Based Programs for Increasing Connectedness and Reducing Risk Behavior: A Systematic Review. *Educ Psychol Rev*. 2013;25:95–114.

53. Battistich V, Schaps E, Wilson N. Effects of an elementary school intervention on students' "connectedness" to school and social adjustment during middle school. *J Prim Prev*. 2004;24:243–262.

54. Andersen S, Rod MH, Ersbøll AK, Stock C, Johansen C, Holmberg T, et al. Effects of a settings-based intervention to promote student wellbeing and reduce smoking in vocational schools: A non-randomized controlled study. *Soc Sci Med*. 2016;161:195–203.

55. Vieno A, Perkins DD, Smith TM, Santinello M. Democratic school climate and sense of community in school: A multilevel analysis. *Am J Community Psychol*. 2005;36:327–41.

56. Griebler U, Rojatz D, Simovska V, Forster R. Effects of student participation in school health promotion: a systematic review. *Health Promot Int*. 2014;:1–12.

57. Fletcher A, Fitzgerald-Yau N, Wiggins M, Viner RM, Bonell C. Involving young people in changing their school environment to make it safer. *Health Educ*. 2015;115 3/4:322–38.

Figure 1. We Act intervention and proposed mechanisms for change in children’s cognitive social capital inspired by Glass et al.(2004).

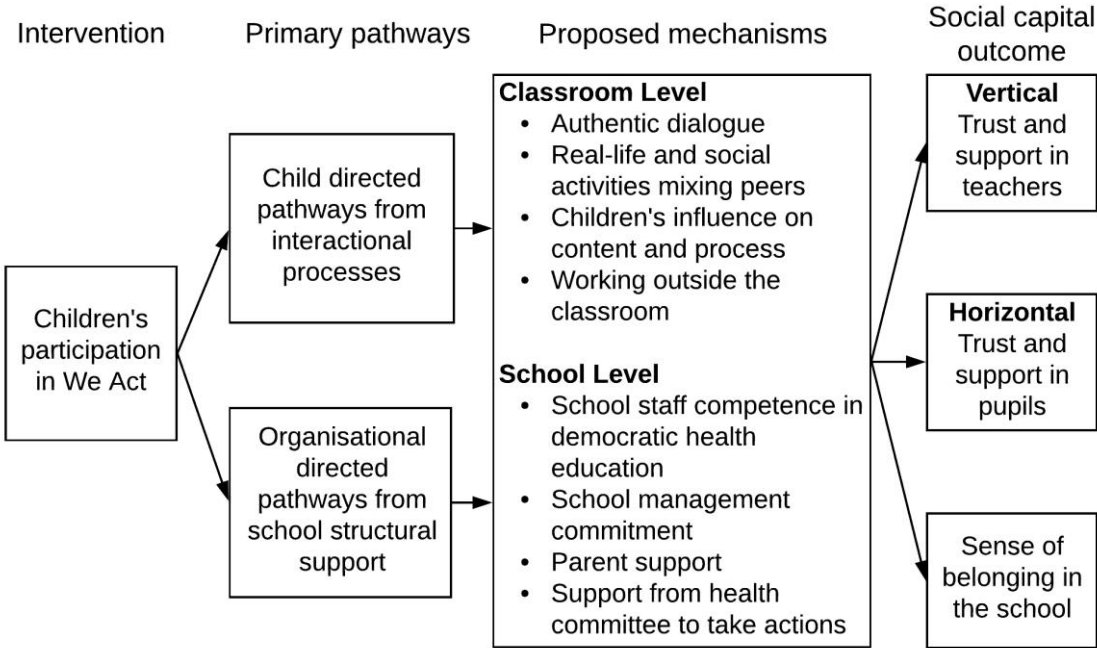


Figure 2. Intervention theory for We Act a HPS intervention.

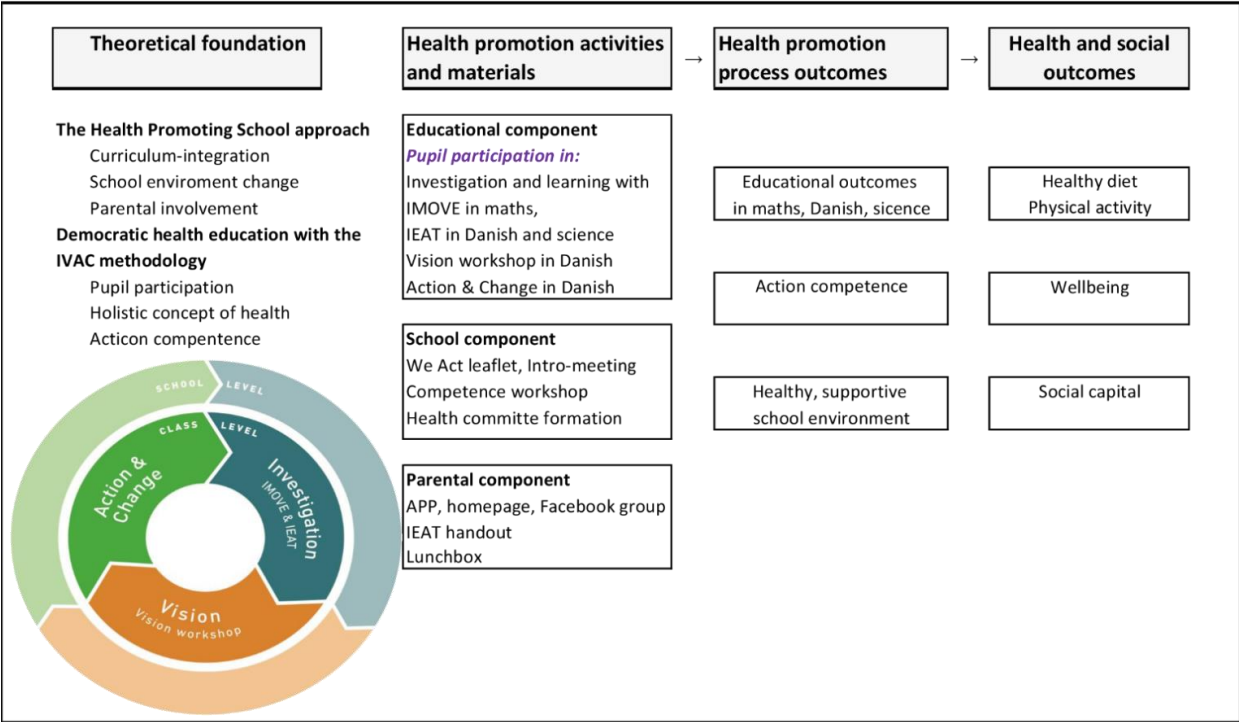
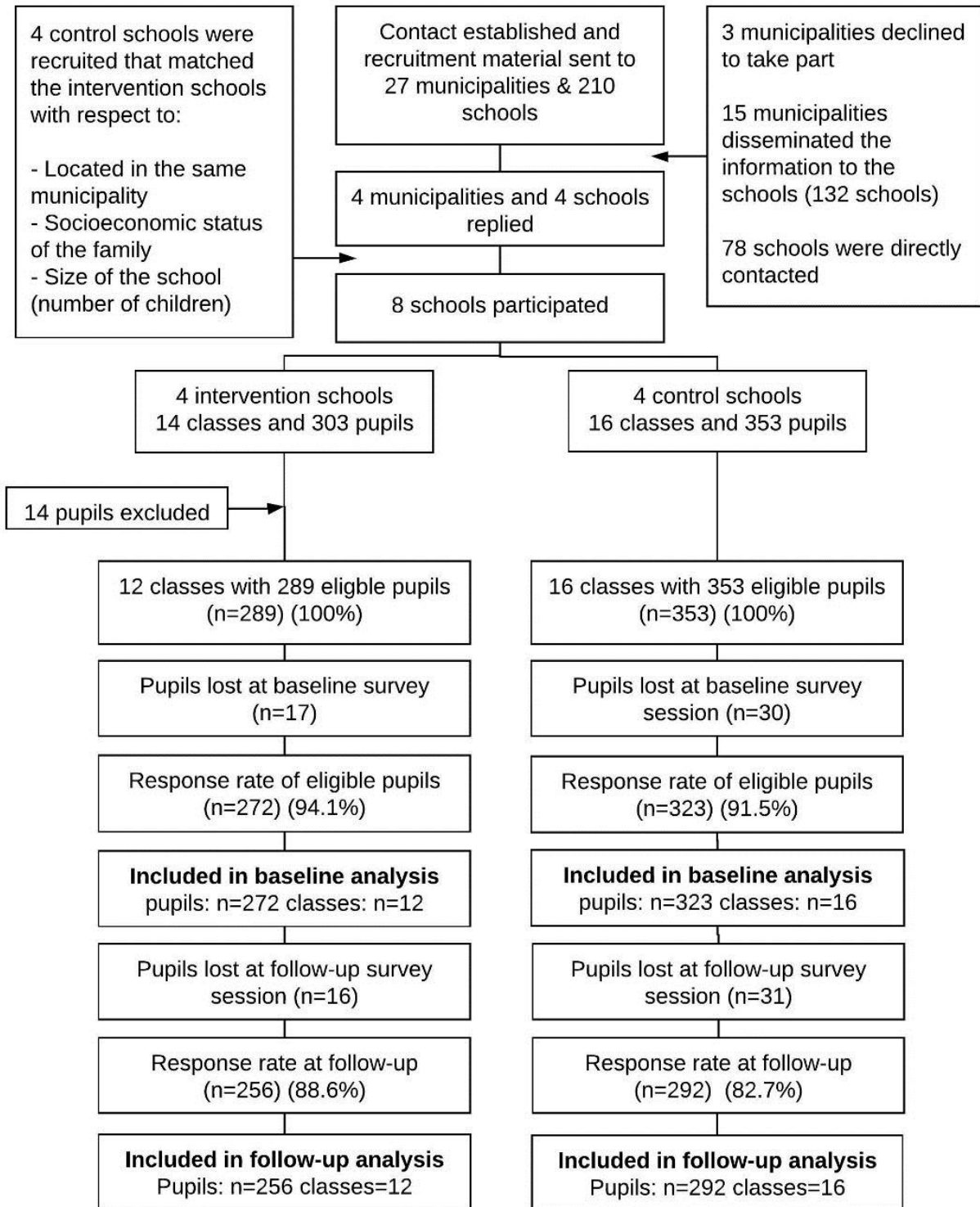


Figure legend: The intervention theory and causal assumptions for We Act were that pupils' participation in health education following the IVAC methodology would develop their action competence in health and social competence, which, along with support from teachers, school management and parents, would initiate a change process towards a healthy supportive school environment, leading to a healthy diet, physical activity, well-being and social capital among pupils.

Figure 3. Flow diagram of recruitment and participation in We Act in Eastern Zealand, Denmark.



Additional File 1: Dropout by groups of baseline (only) respondents compared to baseline and follow-up respondents.

Characteristics	Group 1: Baseline (only)	Group 2: Baseline and follow-up	p-value <sup>a</sup>
Class (5th/6th) (% 5th grade)	31/16 (66%) n=47	345/203 (63%) n=548	0.68
Gender (boys/girls) (% girls)	25/22 (53%) n=47	260/288 (53%) n=548	0.45
Migration status (Native Dane/Migrant Dane) (%Native Dane)	37/10 (79%) n=47	468/80 (85%) n=548	0.22
Socioeconomic status (high, middle, low, unclassifiable) (% high)	14/18/10/5 (30%) n=47	192/205/78/73 (35%) n=548	0.21
Baseline horizontal social capital (low, moderate, high) (% high)	7/14/26 (55%) n=47	93/130/325 (59%) n=548	0.64
Baseline vertical social capital (low, moderate, high) (% high)	12/6/29 (62%) n=47	70/87/391 (71%) n=548	0.05*
Baseline sense of belonging (low, moderate, high) (% high)	7/10/30 (64%) n=47	119/71/357 (65%) n=547	0.21

<sup>a</sup>based on chi-square test, \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001

The table shows the statistical comparison on the individualistic characteristics and the selected outcomes between the group of children who only responded to baseline (who were lost to follow-up) and the group of children who responded to both baseline and follow.



## **Paper III**

### **Children's agency in building social capital and collective actions**





## Paper III

### Title: Children's agency in building social capital and collective actions

Authors: Nanna W. Stjernqvist<sup>1,3\*</sup>, Ane H. Bonde<sup>3</sup>, Ellen Trolle<sup>1</sup>, Marianne Sabinsky<sup>2</sup>, Helle T. Maindal<sup>3,4</sup>

<sup>1</sup> Division of Risk Assessment and Nutrition, National Food Institute, Technical University of Denmark, 2800 Kgs. Lyngby, DK

<sup>2</sup> Division of Diet, Disease Prevention and Toxicology, National Food Institute, Technical University of Denmark, 2800 Kgs. Lyngby, DK

<sup>3</sup> Diabetes Prevention Research, Steno Diabetes Center Copenhagen, 2820 Gentofte, DK

<sup>4</sup> Present address: Department of Public Health – Department of Health Services Research, Aarhus University, 8000 Aarhus, DK

\*Correspondence to: Nanna Wurr Stjernqvist, Division of Risk Assessment and Nutrition, National Food Institute, Technical University of Denmark, Kemitorvet, Building 201, room 115, 2800 Kgs. Lyngby, DK, Email: [naste@food.dtu.dk](mailto:naste@food.dtu.dk), phone: +4529706169 (at all stages of refereeing and publication including post-publication).

## **Title: Children's agency in building social capital and collective actions**

### **Abstract**

**Purpose** – Whole-school approaches emphasising pupil participation are recognised as being conducive for building social capital, yet how participatory health educational processes relate to different types of social capital remains unclear. The present study explores which mechanisms within a participatory health educational process influence social capital and collective actions in the school context, and discusses children's agency in such processes.

**Design/methodology/approach** – A multiple case study design, with the Danish 'We Act – Together for Health' intervention considered as an instrumental case regarding participatory health educational processes for children, principally since it applied the participatory Investigation–Vision–Action–Change (IVAC) approach. The paper is based on a theory-driven, abductive research strategy. Qualitative methods, including focus group interviews with children, semi-structured interviews with teachers and school principals, and participant observation were used.

**Findings** – The study's conceptual framework, which elucidates several mechanisms that interact with types of social capital and collective actions within the school setting, indicates that working with child participation through the IVAC methodology can influence types of social capital and collective actions. It also emphasises children's limited agency in terms of affecting bridging and linking social capital, norms of reciprocity, and collective actions without sufficient support mechanisms at the school and class levels.

**Originality/value** – The study provides a novel comprehensive conceptual framework identifying the specific mechanisms at different levels that influence social capital and collective actions.

**Keywords:** Bonding social capital, Bridging social capital, Linking social capital, Collective actions, Children, Health promoting school, IVAC methodology

## 1 **Introduction**

2 As an asset-based approach to health, social capital has been framed as a lever for policy  
3 actions, due to its potential for enhancing the ability of individuals and communities to maintain  
4 health and well-being and facilitate collective actions (WHO, 2013). Evidence indicates how  
5 social capital within the school setting can operate as a protective factor for children’s well-  
6 being (Morgan and Haglund, 2009; Virtanen *et al.*, 2013). Reviews and empirical studies have  
7 shown that school environments with strong pupil–teacher relationships and an emphasis on  
8 pupils’ voices seem to promote pupil well-being and limit risk behaviour (de Róiste *et al.*, 2012;  
9 McPherson *et al.*, 2013, 2014). Yet, little attention has been devoted towards scrutinising *how*  
10 social capital is generated (Eriksson *et al.*, 2013) particularly in relation to children in the school  
11 setting, even though schools constitute important communities for children (Morrow, 2001) as  
12 well as relatively closed entities where specific interventions can be explored and linked to  
13 indicators of social capital (Virtanen *et al.*, 2013).

14

## 15 **Building social capital in the school setting**

16 The connection between social capital and child well-being with a school as a natural centre for  
17 social capital building is far from new (Hanifan, 1916). Yet, it was not until the beginning of the  
18 1990s that the concept of social capital induced a profound attention in the field of health –  
19 especially following political scientist Robert Putnam’s conceptualisation (Eriksson, 2011). With  
20 roots in different analytical perspectives, the concept has been heavily debated. Two main  
21 conceptualisations can be identified: the social cohesion approach and the social network  
22 approach (Moore and Kawachi, 2017). The latter draws on the work of sociologists Pierre  
23 Bourdieu and James Coleman among others, whereas the former has been linked to the work  
24 of Putnam (Eriksson, 2011).

25 Within the field of school health promotion, social capital is most commonly framed and  
26 utilised following the social cohesion approach and the work of Putnam (Rowe and Stewart,  
27 2009, 2011; Neely, Walton and Stephens, 2016). Putnam (2000) describes “social capital” as a  
28 collective relational resource that resides at the community level with “features of social life—  
29 networks, norms, and trust—that enable participants to act together more effectively to pursue  
30 shared objectives” (Putnam, 1996, p. 1). He also distinguishes between different types of social  
31 capital, including “bonding” and “bridging” (Putnam, 2000). Woolcock (1998) introduced a third

32 form, linking social capital presumably the most profitable one as it relates to ties of individuals  
33 with different amounts of power (McGonigal *et al.*, 2007). The distinction between different  
34 types of social capital is useful within the school context (e.g., Allan and Persson, 2016) and in  
35 recognising the different values inherent in different networks (McGonigal *et al.*, 2007; Cox,  
36 2017). Where strong bonding ties tend to create solidarity and support, and thus represents a  
37 socio-emotional resource for children (Jørgensen, 2016), it may also pose negative aspects,  
38 such as exclusion or bullying – or ‘the dark side of social capital’ (McGonigal *et al.*, 2007;  
39 Putnam, 2000). Bridging social capital, on the contrary, tends to create a broader identity thus  
40 being more inclusive (McGonigal *et al.*, 2007; Putnam, 2000). School communities rich in  
41 different types of social capital, including cross-cutting networks, are moreover likely to be  
42 cohesive and to act collectively on shared objectives (Granovetter, 1973).

43 Formal as well as informal participation through regular social interaction is, according to  
44 Putnam, a key component of social capital creation (Stolle, 2003). Putnam (2000) has suggested  
45 civic education through children’s active participation in decision-making processes as a  
46 potential way to increase social capital within the school setting. Participation and social  
47 interaction can thus be seen as an upstream source that will lead to the creation of norms of  
48 reciprocity and trust (Stolle, 2003). Putnam and Feldstein (2004) have later described some  
49 overall processes conducive for social capital generation, but without any theoretical ambition  
50 of specifying *which* forms of participation and social interactions would be conducive for social  
51 capital creation within the school setting.

52 Drawing on the sociology of childhood, recent theories on child social capital has criticised  
53 the field’s fathers, including Putnam’s conceptualisation for neglecting children’s agency in  
54 generating and utilising social capital, and contend that children’s agency and involvement  
55 must be taken into account (Schaefer-McDaniel, 2004; Weller, 2006). This reasoning advocates  
56 that children be seen as individuals who, through their own actions both individual and  
57 collective, influence their relationships and decision-making processes (Santi and Di Masi,  
58 2014). Recent researchers in child social capital have moreover argued for a methodological  
59 shift towards social capital *practices* – be they bonding, bridging, or linking – and their effects,  
60 rather than merely quantifying the amount *per se* (Allan and Catts, 2014). This approach  
61 acknowledges the dynamic and spatial aspects of social capital and considers activities, social  
62 interactions, and places wherein social capital is developed and transformed.

63 With an emphasis on children’s active participation, recent studies have advanced our  
64 theoretical knowledge on the mechanisms for social capital generation within the school  
65 setting (Rowe and Stewart, 2009, 2011). They draw on social cohesion approach and the Health  
66 Promoting School (HPS) approach, central to which is pupils’ active participation, as well as the  
67 structural processes that focus on a school’s social and physical environments, active  
68 engagement with parents and/or community, and health education that together promote  
69 children’s health and well-being (Green and Tones, 2010). In Europe, the HPS approach has  
70 developed with a particular emphasis on children’s genuine participation in health education,  
71 based on a broad and positive concept of health and what has been termed ‘democratic health  
72 education’ (Jensen, 1997; Simovska and Jensen, 2009; Simovska and Carlsson, 2012). To  
73 operationalise democratic health education, Jensen (1997) developed a practical health  
74 pedagogical methodology termed “Investigation–Vision–Acting–Change” (IVAC).

75 In their study on the relation between the HPS approach and social capital, Rowe and  
76 Stewart (2009) presented a framework that distinguished between *structural* mechanisms,  
77 which make the connections happen and build social capital, and *process* mechanisms, or  
78 methods of operationalising structures residing at the class and school levels, respectively. At  
79 the class level, they emphasised student-centred approaches as being conducive for promoting  
80 student participation in the curriculum (an indicator of social capital), a finding later confirmed  
81 by the emerging research on whole-school approaches to building school connectedness  
82 (Neely, Walton and Stephens, 2016). Yet, how a participatory health educational process  
83 applying the IVAC methodology interrelates with the different types of social capital remains  
84 relatively underexplored, and empirical studies that consider children’s agency in such  
85 processes are likewise scarce.

86 The aim of the current study is therefore to explore which mechanisms within a  
87 participatory health educational process influence social capital and collective actions in the  
88 school setting, and to discuss children’s agency in such processes.

89

### 90 **Contextualising the research: ‘We Act – Together for Health’**

91 The impetus to advance our understanding of the mechanisms that influence social capital in  
92 the school setting was provided by the ‘We Act – Together for Health’ intervention (hereafter,  
93 ‘We Act’). The intervention was developed in Denmark for schoolchildren between 10 to 13

94 years old and was implemented in four Danish public schools over a six-month period  
95 (December 2015–June 2016). Its aim was to improve children’s dietary habits, physical activity,  
96 well-being, and social capital by promoting a healthy and supportive school environment and  
97 children’s action competence in health (Author *et al.*, N.d.). Following the three-point  
98 delineation of the HPS approach in the Cochrane review by Langford *et al.* (2014), the HPS was,  
99 in We Act, operationalised through (1) an educational component, (2) a school component, and  
100 (3) a parental component (see Figure 1).

101 <Insert Figure 1 near here>

102 Moreover, democratic health education was operationalised through the participatory  
103 health educational IVAC methodology (Simovska and Jensen, 2009), with We Act occurring at  
104 two organisational levels: (1) the classroom level and (2) the school level. In the ‘investigation’  
105 phase, pupils investigate their health behaviour by keeping food diaries (IEAT), counting their  
106 steps using a pedometer (IMOVE), and discussing what influences their health behaviour at  
107 school. In the ‘vision’ phase, they develop HPS visions, supported by teachers. After  
108 brainstorming, voting for the best visions, and thematising, groups are established by the  
109 teachers based on the pupils’ prioritisations. Hereafter, pupils concretise their visions and  
110 present them to a wider audience, including parents. This is followed by ‘action’ and ‘change’  
111 phases, wherein the pupils, supported by teachers and the school management in the form of  
112 a health committee, take actions to move closer to attaining their vision (Author *et al.*, N.d.).

113 The present study’s identification of potential mechanisms influencing indicators of social  
114 capital and collective actions was guided by a framework for proposed mechanisms for changes  
115 in the indicators of child social capital (Author *et al.*, N.d.). This framework was inspired by  
116 Rowe and Stewart (2009) and recent studies that draw attention to organisational (structural)  
117 mechanisms and interactional (processes) mechanisms at the class and school levels (Shoji *et al.*,  
118 2014; Cox, 2017)

119

## 120 **Methods**

### 121 ***Study design***

122 A multiple case study design (Yin, 2014) was used, with We Act as the instrumental case  
123 concerning a participatory health education process. Two schools with three participating  
124 classes per school were selected as case schools, allowing for a replication of the HPS approach

125 and IVAC methodology in both schools (Yin, 2014). These two schools were selected to ensure  
126 socio-economic differences between school contexts and to develop a richer model of the  
127 mechanisms within a participatory health educational process that influence indicators of social  
128 capital (Yin, 2014). School A was a small school (270 pupils) located in a village in Zealand,  
129 Denmark. Most of the children came from socio-economically privileged homes with little  
130 ethnic variety. School B, conversely, was a larger school with approximately 700 pupils and  
131 about 32 nationalities represented. This school was in a mixed neighbourhood of villas and  
132 social housing in a suburb of Copenhagen; approximately 50 percent of the children came from  
133 socio-economically privileged homes, and 50 percent from socio-economically disadvantaged  
134 homes. Each school was investigated as a single, embedded school study case where teachers,  
135 children, and school principals served as a unit of analysis. A theory-building approach was used  
136 to facilitate analytical generalisation and to explore the interplay between the HPS approach  
137 and IVAC methodology, and indicators of social capital outcomes.

138 Data collection and analysis were guided by previous studies, the We Act proposed  
139 mechanisms for changes (Figure 1), indicators of social and new patterns in line with abductive  
140 reasoning (Alvesson and Sköldbäck, 2009). A time series design was employed for each of the  
141 two case schools (Yin, 2014, p. 151). This allowed for relationships between aspects of the HPS  
142 approach and IVAC methodology and indicators of social capital to be optimised over a  
143 specified period.

144 To strengthen validity and verify the significance of emergent themes, several triangulated  
145 data collection methods were used, including focus group interviews with children, interviews  
146 with teachers and school principals, and field notes (Yin, 2014). To allow insights into  
147 mechanisms at the child level, data from focus group interviews were combined with the data  
148 from the field notes. To gain insights into mechanisms at the class level, the teacher's interviews  
149 were used combined with the focus group interview data and field notes, while, at the school  
150 level, the interviews with the school principals were used combined with the teacher interviews  
151 and focus group interviews.

152

### 153 ***Focus group interviews with children***

154 Twelve focus group interviews were conducted with 52 children during May and June 2016.  
155 The children were recruited by teachers on a voluntary basis, with two groups from each of the



156 six classes. The purpose of the interviews was to gain insights into the relationship between the  
157 HPS approach and IVAC methodology and indicators of social capital, focusing on the children's  
158 perception and experiences of this. To encourage discussion of the children's perceived  
159 participation in the different IVAC phases in relation to indicators of social capital, the interview  
160 guide included a combination of descriptive and evaluative questions. It also included activities  
161 such as ranking components through 'smileys' (green, yellow, red) and vignettes (Morgan *et*  
162 *al.*, 2002). The interviews lasted between 45 and 63 minutes.

163

#### 164 ***Interviews with teachers and school principals***

165 Eight Danish Math/Science teachers who delivered the intervention with the participating  
166 classes were invited for individual interviews. Five teacher interviews were conducted in June  
167 2016, at the end of the implementation, using a semi-structured interview guide. The  
168 interviews were structured around three themes: the implementation of We Act (the different  
169 components), the spirit of the intervention (including the value of pupil participation), and pupil  
170 outcome (including indicators of social capital). The interviews lasted from 30 to 50 minutes.  
171 To gain knowledge on how the IVAC methodology had occurred at the school level and how  
172 mechanisms at the school level had influenced the process, the participating school principals  
173 and vice principals (four) were invited to be interviewed. In total, eight interviews with school  
174 principals were conducted, each comprising three rounds and using three, semi-structured  
175 tailored interview guides. The interviews lasted 35 to 48 minutes and were conducted  
176 throughout the study period.

177

#### 178 ***Field notes***

179 Participatory observation was conducted at the two schools before, during, and after the We  
180 Act implementation to link the different phases of the IVAC methodology and the HPS approach  
181 to indicators of social capital. The researchers visited the two schools (in groups of one to four  
182 researchers) and participated in all the different IVAC phases—e.g., introductory meeting,  
183 competence day, vision presentation—in one class at each school. Field notes were taken  
184 concurrently after each field visit. The field visits were spread out over 27 days from December  
185 2015 to May 2016.

186

187 **Data analysis procedures**

188 All interviews were audio-recorded and transcribed. The analysis focused on identifying  
189 relationships between mechanisms integrated into the HPS approach and IVAC methodology  
190 and indicators of social capital. The latter corresponded to Putnam's (2000) norms of  
191 reciprocity and networks of bonding, and bridging and linking social capital, and focused on  
192 identifying *practices* of bonding, bridging, and linking social capital (Allan and Catts, 2014).  
193 Putnam's notion of collective actions was also included as an indicator related to social capital,  
194 but not as its direct indicator. Indicators of norms of reciprocity were operationalised as norms  
195 of social support (e.g., engaging in helping behaviour, acknowledging different health  
196 behaviours). Indicators of bonding social capital were operationalised as ties among children  
197 who shared similar identities and/or characteristics such gender, age, or being classmates, and  
198 included negative aspects such as exclusion or bullying. Indicators of bridging social capital  
199 were operationalised as ties among children who know they were not alike in terms of age,  
200 gender, class, grade-level and/or social identity, and therefore tended to be more inclusive by  
201 creating broader identities. Linking social capital was operationalised as ties among unequal  
202 persons, such as children and teachers or children and other adult school staff (McGonigal *et*  
203 *al.*, 2007; De Clercq *et al.*, 2014). Negative elements of linking social capital could include  
204 aspects of perceptions of being ignored or not taken seriously. Collective actions were  
205 operationalised in line with the concept of child agency as actions taken among individuals  
206 based on the children's visions.

207 To identify these relationships, each case school was analysed separately in chronological  
208 order following the We Act implementation. Initially, a first-level coding was conducted after  
209 data had been imported into the qualitative NVIVO software program. This initial coding was  
210 guided by a pre-existing coding list (Miles and Huberman, 1994) and consisted of the We Act  
211 component following the HPS approach and the IVAC methodology, indicators of social capital,  
212 and the potential mechanisms shown in Figure 1. In line with the abductive approach, this initial  
213 coding was also looking for new themes and rival theoretical explanations (Yin, 2014). The initial  
214 coding used both descriptive and interpretative codes (Miles and Huberman, 1994). Selections  
215 of data that belonged to the different components of the HPS and IVAC components were  
216 coded descriptively. The interpretative codes related to the different mechanisms of social

217 capital (divided into organisational and interactional mechanisms at the class and school levels)  
218 and indicators of social capital, as well as open codes.

219 Each data source was analysed in multiple rounds using coding patterns and coding  
220 matrixes, allowing for emergent categories and links between the different codes to be  
221 illustrated through patterns between individuals, events, and outcomes (Miles and Huberman,  
222 1994). Next, data were triangulated in relation to each case school and emergent themes were  
223 discussed among the researchers. Finally, cross-case comparison identified common issues in  
224 each case and interconnected themes among the cases.

225

## 226 **Findings**

227 The analysis resulted in a conceptual framework that highlights several mechanisms interacting  
228 with different types of social capital and collective actions in the school setting (Figure 2). Our  
229 findings are presented in line with Rowe and Stewart's (2009) model and distinguishes between  
230 structural and interactional mechanisms residing at the class and school levels, but deviates by  
231 including a third (micro) child level and by stressing the interactions of the three levels.

232

233 <Insert Figure 2 near here>

234

### 235 ***Micro child level: child participation***

236 Exploring children's participation in the different phases of IVAC at the micro child level, which  
237 emphasises interaction among children, two distinct mechanisms were found to affect  
238 indicators of both bonding and bridging social capital among children – see Figure 2.

239

#### 240 *Working together on child-initiated goals.*

241 Children from both trusting and less trusting classes described their group work with a self-  
242 selected health vision as being motivating and encouraging, as they could come up with their  
243 own ideas (counter to 'normal' education). Many children across both schools described  
244 practices of cooperation, talking together, and helping one another in line with indicators of  
245 bonding social capital. Some children explained how this was easier when they could form their  
246 own groups because they then knew other members' interests, working styles, and ways of  
247 thinking, and, hence, it was easier to agree.

248 The procedure of forming groups, as described in the teacher material in the investigation  
249 and vision phases, was not followed uniformly by teachers across the two schools. When  
250 children were free to form groups on their own, as was the case in some classes during the  
251 investigation phase at both schools and during the vision phase at School B (in one out of three  
252 groups), it facilitated mostly practices of bonding social capital where by existing friends, often  
253 of the same gender, same class, and with similar interests, collaborated on their chosen ideas.  
254 In some groups, a common group identity developed, expressed by, for example, wearing  
255 similar hair bands or giving themselves a quirky name. When the teachers formed the groups  
256 based on individual children's interests, the groups tended to become more diverse with a  
257 mixture of children from different classes, abilities, and genders, allowing for broader identities  
258 to develop in line with indicators of bridging social capital. This, for example, occurred at School  
259 A as part of the action and change phase, after the class had voted on the best visions and  
260 discussed these with their teachers who gave them positive feedback, which was highly  
261 appreciated by many children, as illustrated in the following interview excerpt:

262 MODERATOR: Why did you think it should be a green [smiley]?

263 TOBIAS: It was good teamwork.

264 MODERATOR: Good teamwork?

265 CAMILLA: Really good teamwork.

266 MODERATOR: Better teamwork than normal?

267 CAMILLA: [mmm] [KEVIN: yes] you were working more as a team with the class, because,  
268 when you had chosen your ... which mission you wanted, then you started to cooperate  
269 on what was possible, there were these themes on ... fruit shop, school lockers, and  
270 then you had to choose between these two and we choose fruit shop. ... So we actually  
271 worked together on everything on the fruit shop.

272 (5<sup>th</sup> grade, School A)

273

274 *Working with something of interest.*

275 Working with a vision that was interesting was also found to be important for individual  
276 children's motivation to engage in group work, at both schools, which in turn allowed the group  
277 work to develop connectedness among its members in line with indicators of bonding and  
278 bridging social capital. This was facilitated through group members' engagement and progress

279 in the project, which allowed them to get into ‘their own world’, and culminated with their  
280 vision presentation made for a broader audience. Lack of interest in a vision, or being forced to  
281 work with a ‘weird’ or ‘dangerous’ vision was conversely seen by children from both schools as  
282 a barrier for successful group work, and resulted in some children expressing dissatisfaction  
283 with the process, conflicts between group members, or even examples of exclusion of some  
284 children in line with the ‘dark side’ of social capital.

285 At the micro child level, a mechanism of *competing individually and collectively* was found  
286 to interact with indicators of social capital – primarily, bonding social capital – across the two  
287 schools, creating a shared social identity among some children but also interacting with the  
288 dark side of social capital, especially in less socially trusting classes. During the investigation  
289 phase, children emphasised how wearing a step counter or logging food intake created a  
290 mechanism of competition, which some children found encouraging or funny. One boy from  
291 School B, for example, described how comparing steps was a ‘thing’ that connected the boys in  
292 the class by making it into a game. In line with indicators of the dark side of social capital, this  
293 same mechanism, however, made other children, especially those from less socially trusting  
294 classes or children who were overweight, feel excluded and insecure regarding what their  
295 classmates would think or do. One group in a less socially trusting class, for instance, believed  
296 that some of their peers stayed away from school as they were afraid of what others would  
297 think if their step number was too low.

298 The competition mechanism thus also facilitated social positioning that resulted in the  
299 exclusion of some children (in line with the dark side of social capital). The mechanism of  
300 competition was also present as part of the vision phase at School B, where competition  
301 occurred among the groups (rather than among individuals).

302

### 303 ***Meso class level: teacher support***

304 The ability of children to influence indicators of bridging and linking social capital, norms of  
305 reciprocity, and collective actions as part of the action and change phase were, to a large  
306 degree, dependent on support mechanisms at the class level. These are divided into  
307 *interactional* and *organisational* mechanisms (see Figure 2). Here, teachers and other adults  
308 played an important role.

309

310 *Interactional*

311 *Emphasis of respect and recognition.* Within the different phases of the IVAC methodology,  
312 teachers played an important role in emphasising norms of generalised respect and  
313 recognition, as well as norms of respect towards different health behaviours. This was seen  
314 during the investigation phase when the competition mechanisms created frustration for some  
315 children, and teachers described emphasising the non-competitive element of this phase.  
316 Critical discussions lead by teachers on social and cultural aspects of food and physical activity  
317 also interacted with the development of norms of recognition. This was indicated through the  
318 children's self-selected visions and working with the social aspects, such as the importance of  
319 having someone to play and eat with and making new friends across age groups.

320 *Guidance and support.* Teacher–children interactions – especially during the vision, action,  
321 and change phases, when the teachers provided guidance in the group work – facilitated  
322 indicators of norms of reciprocity and linking social capital, in that some children felt teachers  
323 were helping more and paid more attention to their ideas than normal. Conversely, lack of  
324 guidance and support interacted negatively with indicators of linking social capital, in terms of  
325 children's experience of being involved in decision-making fairly. At School A, children from the  
326 same class became frustrated when they realised, in the action and change phase, that their  
327 teachers were not going to push their visions forward.

328 At School B, some groups who were not selected to present their vision to the school board  
329 argued that it was unfair that the most 'unrealistic visions' were selected. They believed that  
330 their teachers should have guided and supported them more during the vision phase, as the  
331 realistic visions would have had a better chance to actually be realised, compared to the  
332 unrealistic ones that ended up being selected by the pupils, because, as one girl said, 'obviously,  
333 children vote for the vision that sounds coolest'.

334 *Extra support to some children and groups.* While many groups managed to divide and share  
335 tasks and help one another, some groups and individuals from both schools needed extra  
336 support from their teachers. This was, according to a teacher at School B, because one of the  
337 other teachers had allowed the children to form groups on their own. Accordingly, some  
338 children and groups needed extra support or 'a creative "head" in the group whose ideas they  
339 could jump on'. Teacher support in forming groups and dividing work tasks among group

340 members thus appeared to be a mechanism that facilitated bridging social capital by allowing  
341 children with different abilities to collaborate and help one another.

342

343 *Organisational*

344 *Real-life actions outside the classroom.* The mechanism of working with real-life actions outside  
345 the classroom was found to facilitate motivation during the group work in both schools and  
346 was seen as adding a fun element to group work by the pupils. Working outside the classroom  
347 further facilitated interactions among children in other ways than in traditional school classes.  
348 At School B, activities such as 'walk and talk' in the investigation phase and making bread on a  
349 stick with a pedagogue, who was allocated to the project in the vision phase, facilitated social  
350 interaction across all classes and interacted with indicators of bonding and bridging social  
351 capital as well as norms of recognition. At School A, some groups interacted across grade levels  
352 during the action and change phase when conducting surveys with the younger grades. This  
353 interacted with indicators of bridging social capital where by the 'older' children helped the  
354 'younger' children who could not read.

355 *Cross-class activities.* Teacher interventions in forming groups, working across classes, and  
356 specifying seating arrangements served as mechanisms that influenced indicators of bridging  
357 social capital. At School B, the teachers decided to implement the vision workshop as a theme  
358 week, and the three fifth-grade classes were rearranged into three mixed groups. When  
359 teachers intervened in forming groups, it facilitated the development of new, smaller working  
360 constellations (with 'fresh blood', as one teacher observed), allowing new ideas to develop and  
361 new working interactions to form among the children. This enabled children to develop  
362 bridging social capital by cooperating with one another and learning about the other children.  
363 Working in groups across classes was perceived as being fun by many children from School B.  
364 In the less socially functioning class, one group reported that working across classes during the  
365 vision phase and in teams of four across the three classes created more cohesion among the  
366 classes and broader identities, in line with bridging social capital, as it helped children know  
367 other pupils better.

368 SARAH: I think ... when we are mixed in these teams ... [KIMMIE: yes] then I think ... that ...  
369 the classes can be more together on [BERTRAM: mm] on one thing. [BERTRAM: You learn  
370 more about...] Yes [BERTRAM: ... the others]. You know ... in a way, you get to know the

371 others better. [MODERATOR: Sure.] I think this creates a better unity between the classes  
372 with them ... from the other classes.

373 (5th grade, School B)

374

375 ***Meso school level: management support***

376 Several mechanisms that influenced indicators of social capital were identified at the school  
377 level. Here, the school management played an important role by supporting collective actions  
378 and facilitating organisational structures for bridging and linking social capital (see Figure 2).

379

380 *Interactional*

381 *Feedback to the children.* Feedback and social interaction between the school management and  
382 the children were mechanisms affecting indicators of linking social capital, and a way to get to  
383 meet people with 'real' power, as one teacher said. At School B, this was, however, only an  
384 opportunity for groups that received the most votes for their efforts, which, according to one  
385 teacher, meant the academically strong and popular pupils. When these groups presented their  
386 visions first to the school management and later to the school board, they were praised for  
387 their work and given positive feedback. This was described as fun and encouraging, as  
388 illustrated in the interview excerpt:

389 LOUISE: I say green [smiley], but that is also because ... I also got all the other stuff ... that  
390 was great fun, when we were presenting for the school board ... so that was ... not  
391 everyone had that chance.

392 (5<sup>th</sup> grade, School B)

393 The children hereafter seemed to be disconnected from the action and change process,  
394 resulting in some children getting frustrated and negative indicators of linking social capital in  
395 terms of perceptions of feeling ignored or not taken seriously.

396 At a follow-up interview at School B four months later, the vice principal acknowledged that  
397 the school management's communication to the pupils had failed, even though the  
398 management had initiated a few actions based on the pupils' visions (e.g., buying new  
399 showerheads). The vice principal at School A similarly recognised that feedback to children was  
400 important and influenced their perception of being heard.



401 *Adult coordinator.* When discussing why only a few collective actions had been  
402 orchestrated, both vice principals emphasised the need for an adult coordinator with  
403 management competencies to ensure progress, implement specific actions, and keep the  
404 children involved. At School B, one teacher had such a role during the investigation and vision  
405 phases and ensured that the process moved successfully from class to school level and to the  
406 school board. At School A, where the process never reached the school level, no adult  
407 coordinator was appointed.

408 At both schools, teachers and school principals emphasised the need to have the children  
409 involved in the process so they knew they were being taken seriously, which emphasise s the  
410 importance of communication in terms of linking social capital.

411  
412 *Organisational*  
413 *Management prioritisation.* Management prioritisation and allocation of resources were seen  
414 as central organisational mechanisms affecting both the initiation and realisation of collective  
415 actions and indicators of linking social capital. The following interview excerpt highlights  
416 frustration regarding management support:

417 The thing is the school has to cut its budget by 4 million [Danish kroner] and they [the  
418 children] are ... very well aware, but that is what we hear; you may also hear this and of  
419 course this has affected us.

420 (Teacher, 5<sup>th</sup> grade, School A)

421 At School B, similar reactions were observed in the focus groups, in which “having enough  
422 money”, according to the children, was highlighted as an important factor for initiating and  
423 realising their visions.

424 *Parental collaboration.* An integral part of the HPS approach is parental involvement. At  
425 School A, the school management decided to invite parents to the pupils’ presentations, which,  
426 according to the teachers, created a mechanism that made the children work more  
427 enthusiastically, but the parents were thereafter disconnected. At School B, the school  
428 management decided not to invite the parents and their collaboration in We Act was therefore  
429 limited. However, teachers, principals, and children in both schools highlighted the importance  
430 of engaging with parents. For example, parents could help initiate ideas during the action and

431 change phase. The vice principals and teachers in both schools also suggested holding a parent  
432 information meeting prior to We Act, to further involve the parents.

433 *Teacher teams across classes and grades.* School principals and teachers emphasised  
434 that, to facilitate collective actions and ties among children from different classes (bridging  
435 social capital), a well-functioning teacher team and cooperation at the grade level were  
436 essential mechanisms. When discussing barriers to initiate collective actions, School A's  
437 principal noted a lack of synergy and cooperation between the classes. Meanwhile, School B's  
438 well-functioning teamwork was seen as a fundamental mechanism in making the vision phase  
439 move successfully from class level to school level. This provided a mechanism that facilitated  
440 indicators of bridging social capital for all three classes, as illustrated in the interview excerpt:

441 The project has consolidated the year work cooperation, when I see 14 to 15 children  
442 or how many there were yesterday, including the day when they presented ... a group  
443 of children across classes ... and they are playing together ... and I know them, you know,  
444 so I can see when they are from different classes.

445 (Vice principal, School B)

#### 446 **Discussion**

447 This study explored the underlying mechanisms for social capital building and collective actions  
448 in the school setting, and discussed children's agency in a participatory health educational  
449 process. The results add to the findings of previous studies on the mechanisms for building  
450 social capital through the HPS approach, and advance three new theoretical insights.

451 First, we introduced a third micro (child) level into the conceptual framework, which  
452 elucidated two significant mechanisms at play among children that influence indicators of  
453 bonding and bridging social capital: *working together on child-initiated goals* and *working with*  
454 *something of interest*. Such practices were greatly appreciated by the children in both schools.  
455 The mechanism of 'working with something of interest' and especially that of 'competing  
456 individually or collectively', however, also highlighted some challenges that can arise among  
457 children as part of a participatory health educational process, in that some children may end  
458 up feeling excluded (the 'dark side' of social capital).

459 Second, the significant interactions among the different levels were incorporated into a  
460 conceptual framework in which interactional and organisational support mechanisms at the  
461 class and school levels, seem essential for allowing opportunities for children to influence

462 indicators of bridging and linking social capital, norms of reciprocity, and collective actions. This  
463 finding also indicates children's limited agency in terms of influencing bridging and linking social  
464 capital, norms of reciprocity and collective actions, as borne out by the limited teacher and  
465 management support for acting collectively on the pupils' visions and the subsequent effects  
466 on the children.

467 Third, the study points towards some challenges between working democratically and  
468 involving all children, as occurred at School A, and the process stopping at the class level and a  
469 more powerful process coming into play, as occurred at School B.

470 Related to the first finding, the mechanism of 'working together on a child-initiated  
471 common goal' corresponds to what Rowe and Stewart (2009) termed the 'significance of class  
472 organisation activities' and Neely *et al.* (2016) called the 'class organisation'. Rowe and Stewart  
473 (2009) found that these practices, at class level, promoted connectedness, in terms of  
474 motivation, ownership, student friendship, extra teacher support, and tolerance of diversity  
475 among students. Neely *et al.* (2016) found that student-centred approaches and the practice  
476 of working together encouraged inclusive participation among students. The current study adds  
477 to the existing evidence by applying the IVAC methodology and connecting this mechanism to  
478 different types of social capital.

479 The mechanism of 'competing individually and collectively' provides insight into the  
480 conundrums a health promoter might face when pursuing both nutritional and social cohesion  
481 goals (Neely *et al.*, 2016) while also describing a potential mechanism of social capital's 'dark  
482 side', which has received less attention (Field, 2008). Learning about healthy food and physical  
483 activity in the current study was found to interrelate with practices of bonding social capital by  
484 connecting the children who made a game out of counting and comparing their steps. At the  
485 same time, this mechanism also created a sense of exclusion for other pupils, especially in less  
486 trusting classes or among children who were overweight.

487 The current study also highlights the importance of 'working with something of interest',  
488 which adds to the existing research by stressing that a child's individual interest in a vision also  
489 affects the group work process and provides an opportunity to develop group connectedness,  
490 but also holds potential negative or 'dark' aspects such as social exclusion, which underlines  
491 the important role of teachers when forming groups. Problems of social exclusion when

492 mobilising social capital are similarly underlined by Hampshire and Matthijsse (2010) in their  
493 study on an art project designed to improve children’s health and well-being.

494 Related to the second finding, Rowe and Stewart (2009) and Neely *et al.* (2016) do not  
495 address the interaction of the mechanisms at the different levels or children’s agency in such  
496 processes. The difficulties faced by young people in influencing indicators of bridging and  
497 linking social capital have, though, been noted in other studies. For example, Raymond-Flesch  
498 *et al.* (2017) found that Latino adolescents aged 13–19 years in an agricultural community often  
499 lacked the bridging and linking social capital that could help them navigate structural systems,  
500 such as gaining access to private health care. When comparing the present study’s class- and  
501 school-level mechanisms with the findings of prior research, there are some similarities. For  
502 example, Rowe and Stewart (2009) highlighted the importance of collaborative curriculum  
503 planning at the school level for promoting a sense of belonging, which is similar to our  
504 framework’s ‘teacher teams across classes and grades’ mechanism.

505 Regarding the challenges we have identified of democratically involving all children, related  
506 to the third finding, Eriksson *et al.* (2013) discussed social capital development in terms of  
507 working with a democratic and inclusive process (versus working with a more powerful  
508 process), while Allan and Persson (2016) found that inclusive educational processes wherein  
509 non-disabled and disabled students came together could be successful in terms of building  
510 social capital. Of importance in terms of building bridging social capital were practices through  
511 which teachers actively encouraged students to help one another by saying that it was  
512 advantageous to do so, which in turn led to the development of skills of all pupils as well as  
513 bonding and bridging social capital. Teachers emphasising norms of respect and recognition for  
514 other children, oneself, and the environment has also been stressed by other studies (e.g. Rowe  
515 and Stewart, 2011). Taken together, these findings suggest that inclusive practices within the  
516 ‘closure’ of school and class settings are efficient in building social capital.

517 From a health educational perspective, the findings of the current study uncover some of  
518 the weakness of focusing solely on child participation, as emphasised by Putnam (2000) and  
519 operationalised through the IVAC methodology in We Act, without sufficient interactional and  
520 organisational mechanisms in place, both with respect to the exclusion mechanisms for some  
521 children when working with health behaviour, but also in relation to children’s limited agency  
522 in influencing bridging and linking social capital, norms of reciprocity, and collective actions.

523 This contention redirects our attention towards the perspectives of social capital generation  
524 offered by Coleman (1988) and Bourdieu (1986). For example, the need to pay extra attention  
525 to emphasising norms of respect and recognition within the ‘closure’ of the school and  
526 classroom, as well as emphasising the importance of the role of parents, was highlighted by  
527 Coleman (1988). Bourdieu’s (1986) more individualistic perspective and notion of interlinked  
528 forms of capitals and sociability moreover reminds us why some children are more constrained  
529 than others in relation to participation (i.e., group work), being physically active, or in relation  
530 to eating healthy food, which emphasises the important role of teachers in forming groups,  
531 highlighting inclusive norms as well as working with collective practices, to avoid making some  
532 children feel excluded.

533 Our findings further suggest that future interventions pay more attention to group work  
534 processes. First, focusing on children’s interest levels and participation in decision-making  
535 processes seems important for facilitating motivation and group connectedness. Second,  
536 mixing children into smaller groups across classes or larger groups within a class and engaging  
537 across classes appear essential in allowing opportunities for bonding practices of group  
538 connectedness and bridging practices of getting to know ‘other’ children, as well as developing  
539 a broader class or school identity.

540 Equally important in relation to social capital building are the organisational and structural  
541 mechanisms at the school level (Cox, 2017). In We Act, organisational mechanisms were  
542 designed to be integrated into the HPS approach, with the school and parental components  
543 aimed at supporting the action and change phase. Another HPS study applying the IVAC  
544 methodology, however, also found this approach to be challenging with respect to the change  
545 aspect (Carlsson and Simovska, 2012), and Simovska and Carlsson (2012) highlight lack of  
546 management support as a potential challenge to the sustainability of participatory health-  
547 promotion projects. This stresses the need for more efficient mechanisms at the school and  
548 class levels to support the action and change process whereby pupils’ health visions are able to  
549 move from class level to school level. Fletcher and colleagues (2015) found action groups  
550 comprising a range of staff and students and facilitated by an external facilitator were capable  
551 of taking actions on health and well-being issues and worked successfully with a variety of  
552 students. Future interventions may therefore consider such elements.

553 Finally, conducting inclusive activities involving all school actors has been emphasised as  
554 being particularly important for building connectedness (Neely *et al.*, 2016; Rowe and Stewart,  
555 2009). Putnam and Feldstein (2004) have argued that smaller is better in forging and sustaining  
556 connections, while bigger is better for critical mass, power, and diversity. We Act was designed  
557 to allow for larger structural activities involving several actors within the school as part of the  
558 action and change phase, but, as the process stopped when it reached the school level, no such  
559 activities were implemented. Future interventions should therefore consider the possibility of  
560 integrating inclusive activities involving the whole school community and including parents  
561 more directly at the organisational school level.

562 A strength of the current study is its multiple case study design, which allowed for a  
563 replication of the IVAC methodology using two socio-economically different schools, thus  
564 strengthening the generalisability of the findings. The multiple methods applied are a further  
565 strength of this research. One limitation of the study, though, is the low implementation fidelity  
566 of the action and change phase and the parental component in the two schools. It is possible  
567 that other mechanisms at the school level influencing indicators of social capital could have  
568 emerged if the implementation fidelity had been higher – for example, with respect to the  
569 parental level at the class level. Also, regarding the study design and time-limited nature of the  
570 intervention, the conceptual framework is inadequate in terms of addressing causality. The  
571 mechanisms that were identified as interacting with social capital indicators and collective  
572 actions, and their interaction modelled within the intervention, may, however, be generalised  
573 analytically (Yin, 2014), though the findings should be confirmed by more advanced longitudinal  
574 studies.

575  
576 **Conclusion**  
577 This study sought to identify mechanisms that influence different indicators of social capital  
578 and collective actions within a participatory health educational process. It found several  
579 mechanisms, which suggests that the IVAC methodology can influence different indicators of  
580 social capital and collective actions of schoolchildren though not without challenges. To  
581 summarise, children face challenges in terms of influencing bridging and linking social capital,  
582 norms of reciprocity, and collective actions without sufficient support mechanisms at the  
583 school and class levels.

## References

- Allan, J. and Catts, R. (2014) 'Schools, Social Capital and Space', *Cambridge Journal of Education*. Routledge, 44(2), pp. 217–228.
- Allan, J. and Persson, E. (2016) 'Students' perspectives on raising achievement through inclusion in Essunga, Sweden', *Educational Review*. Routledge, 68(1), pp. 82–95.
- Alvesson, M. and Sköldbberg, K. (2009) *Reflexive Methodology. New Vistas for Qualitative Research*. London: SAGE Publication.
- Bourdieu, P. (1986) 'The Forms of Capital', in Richardson, J. G. (ed.) *Handbook of Theory and Research for the Sociology of Education*. New York: Greenwood Press, pp. 241–161.
- Carlsson, M. and Simovska, V. (2012) 'Exploring learning outcomes of school-based health promotion-a multiple case study', *Health Education Research*, 27(3), pp. 437–447.
- De Clercq, B., Pfoertner, T.-K., Elgar, F. J., Hublet, A. and Maes, L. (2014) 'Social capital and adolescent smoking in schools and communities: A cross-classified multilevel analysis', *Social science & medicine*, 119, pp. 81–7.
- Coleman, J. S. (1988) 'Social Capital in the Creation of Human Capital', *American Journal of Sociology*, 94(1988), pp. 95–120.
- Cox, A. B. (2017) 'Cohorts, "Siblings," and Mentors: Organizational Structures and the Creation of Social Capital', *Sociology of Education*, 90(1), pp. 47–63.
- Eriksson, M. (2011) 'Social capital and health -implications for health promotion', *Global Health Action*, 4, p. 5611. doi: 10.3402/gha.v4i0.5611.
- Eriksson, M., Dahlgren, L. and Emmelin, M. (2013) 'Collective actors as driving forces for mobilizing social capital in a local community: what can be learned for health promotion?', in Westlund, H. Kobayashi, K. (ed.) *Social capital and rural development in the knowledge society*. Cheltenham, UK: Edward Elgar Publishing, pp. 273–298.
- Field, J. (2008) *Social capital*. New York: Routledge.
- Fletcher, A., Fitzgerald-Yau, N., Wiggins, M., Viner, R. M. and Bonell, C. (2015) 'Involving young people in changing their school environment to make it safer', *Health Education*, 115(3/4), pp. 322–338.
- Granovetter, M. S. (1973) 'The Strength of Weak Ties', *American Journal of Sociology*, 78(6), pp. 1360–1380.

- Green, J. and Tones, K. (2010) *Health Promotion. Planning and strategies*. 2. New York: Sage Publication.
- Hampshire, K. R. and Matthijsse, M. (2010) 'Can arts projects improve young people's wellbeing? A social capital approach', *Social Science & Medicine*, 71(4), pp. 708–716.
- Hanifan, L. J. (1916) 'The Rural School Community Center', *The Annals of the American Academy of Political and Social Science*, 67, pp. 130–138.
- Jensen, B. B. (1997) 'A case of two paradigms within health education', *Health Education Research*, 12(4), pp. 419–428.
- Jørgensen, C. H. R. (2016) "'Peer social capital" and networks of migrants and minority ethnic youth in England and Spain', *British Journal of Sociology of Education*. Routledge, pp. 1–12.
- Langford, R., Bonell, C. P., Jones, H. E., Poulidou, T., Murphy, S. M., Waters, E., Komro, K. a, Gibbs, L. F., Magnus, D. and Campbell, R. (2014) *The WHO Health Promoting School framework for improving the health and well-being of students and their academic achievement.*, *The Cochrane database of systematic reviews*.
- McGonigal, J., Doherty, R., Allan, J., Mills, S., Catts, R., Redford, M., McDonald, A., Mott, J. and Buckley, C. (2007) 'Social capital, social inclusion and changing school contexts: A scottish perspective', *British Journal of Educational Studies*, 55(1), pp. 77–94.
- McPherson, K., Kerr, S., McGee, E., Morgan, A., Cheater, F. M., McLean, J. and Egan, J. (2014) 'The association between social capital and mental health and behavioural problems in children and adolescents: an integrative systematic review.', *BMC psychology*, 2(1), p. 7.
- McPherson, K., Kerr, S., Morgan, A., McGee, E., Cheater, F. M., McLean, J. and Egan, J. (2013) 'The association between family and community social capital and health risk behaviours in young people: an integrative review.', *BMC public health*, 13, p. 971.
- Miles, M. B. and Huberman, M. A. (1994) *Qualitative Data Analysis*. California: SAGE Publication, Inc.
- Moore, S. and Kawachi, I. (2017) 'Twenty years of social capital and health research: a glossary', *Journal of Epidemiology and Community Health*, 71(5), pp. 513–517.
- Morgan, A. and Haglund, B. J. A. (2009) 'Social capital does matter for adolescent health: Evidence from the English HBSC study', *Health Promotion International*, 24(4), pp. 363–372.
- Morrow, V. (2001) *Networks and Neighbourhoods: Children's and Young People's Perspectives*.
- Neely, E., Walton, M. and Stephens, C. (2016) 'Food practices and school connectedness: a whole-



- school approach', *Health Education*, 116(3), pp. 320–340.
- Putnam, R. (1996) 'Who killed Civic America?', *Prospect*, 7(24), pp. 66–72.
- Putnam, R. (2000) *Bowling alone: The Collapse and Revival of American Community*. New York: Simon & Schuster Paperbacks.
- Putnam, R. D. and Feldstien, L. M. (2004) *Better Together - Restoring the American Community*. New York, NY: Simon & Schuster Paperbacks.
- Raymond-Flesch, M., Auerswald, C., McGlone, L., Comfort, M. and Minnis, A. (2017) 'Building social capital to promote adolescent wellbeing: a qualitative study with teens in a Latino agricultural community', *BMC Public Health*. *BMC Public Health*, 17(1), pp. 1–9.
- de Róiste, A., Kelly, C., Molcho, M., Gavin, A. and Nic Gabhainn, S. (2012) 'Is school participation good for children? Associations with health and wellbeing', *Health Education*. Edited by V. Simovska, 112(2), pp. 88–104.
- Rowe, F. and Stewart, D. (2009) 'Promoting connectedness through whole school approaches: a qualitative study', *Health Education*, 109(5), pp. 396–413.
- Rowe, F. and Stewart, D. (2011) 'Promoting connectedness through whole school approaches: Key elements and pathways of influence', *Health Education*, 111(1), pp. 49–65.
- Santi, M. and Di Masi, D. (2014) 'Pedagogies to Develop Children's Agency in Schools', in Hart, C. S., Biggeri, M., and Babic, B. (eds) *Agency and participaiton in Childhood and Youth: International Applicaitons of the Capability Approach in Schools and Beyond*. London: Bloomsbury.
- Schaefer-McDaniel, N. (2004) 'Conceptualizing Social Capital among Young People', *Children, Youth and Environments*, 14(1), pp. 140–150.
- Shoji, M. N., Haskins, A. R., Rangel, D. E. and Sorensen, K. N. (2014) 'The emergence of social capital in low-income Latino elementary schools', *Early Childhood Research Quarterly*. Elsevier Inc., 29(4), pp. 600–613.
- Simovska, V. and Carlsson, M. (2012) 'Health promoting changes with children as agents: findings from a multiple case study research', *Health Education*, 112(3), pp. 292–304.
- Simovska, V. and Jensen, B. B. (2009) *Conceptualizing participation – the health of children and young people*. Copenhagen Ø.
- Stolle, D. (2003) 'The Source of Social Capital', in *Generating Social Capital - Civil society and institutions in comparative perspective*. New York: Palgrave macmillan, pp. 19–37.

- Virtanen, M., Ervasti, J., Oksanen, T., Kivimäki, M. and Vahtera, J. (2013) 'Social Capital in Schools', in Kawachi, I., Subramanian, S. V., and Takao, S. (eds) *Global Perspectives on Social Capital and Health*. New York: Springer Science + Business Media.
- Weller, S. (2006) 'Skateboarding Alone? Making Social Capital Discourse Relevant to Teenagers' Lives', *Journal of Youth Studies*, 9(5), pp. 557–574.
- WHO (2013) *Health 2020: A European Policy Framework and Strategy for the 21st Century*. Copenhagen Ø.
- Woolcock, M. (1998) 'Social capital and economic development: Toward a theoretical synthesis and policy framework', *Theory and Society*, 27(2), pp. 151–208.
- Yin, R. K. (2014) *Case Study Research - Design and Methods*. London: SAGE Publication, Inc.

Figure 1: We Act intervention and proposed mechanisms for change in children’s social capital.

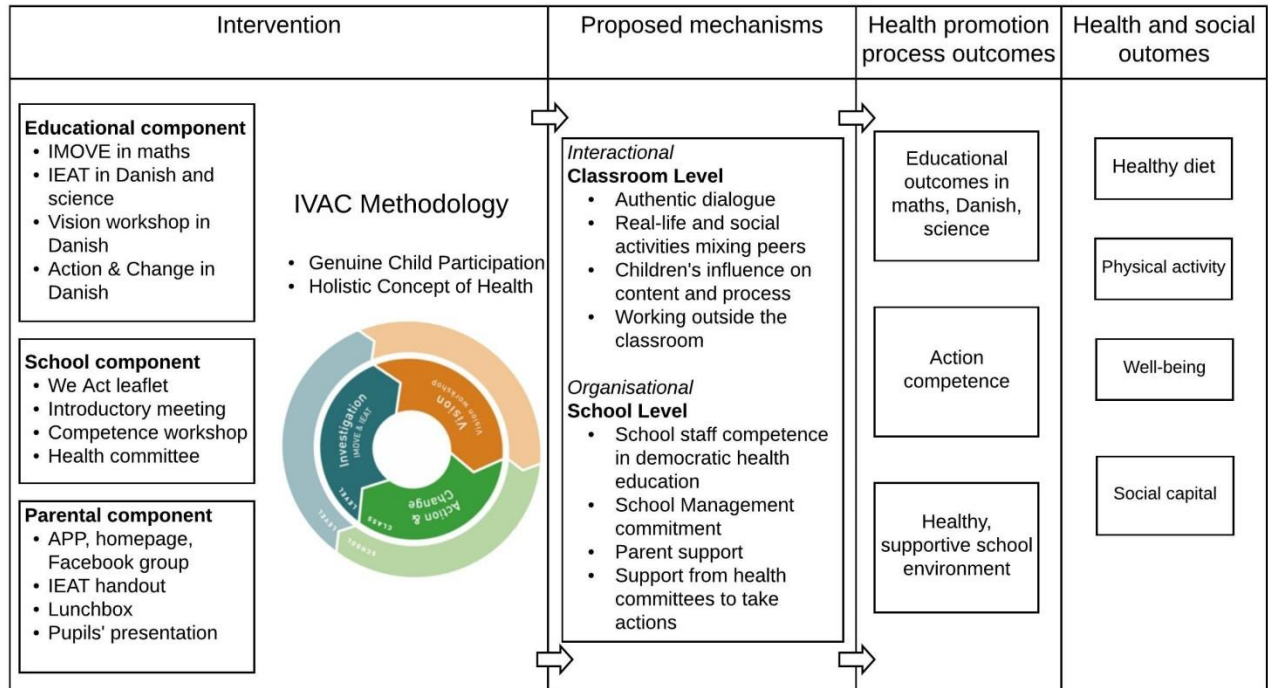


Figure 2: Conceptual framework illustrating mechanisms influencing social capital indicators (and collective actions) in a participatory health educational process.

