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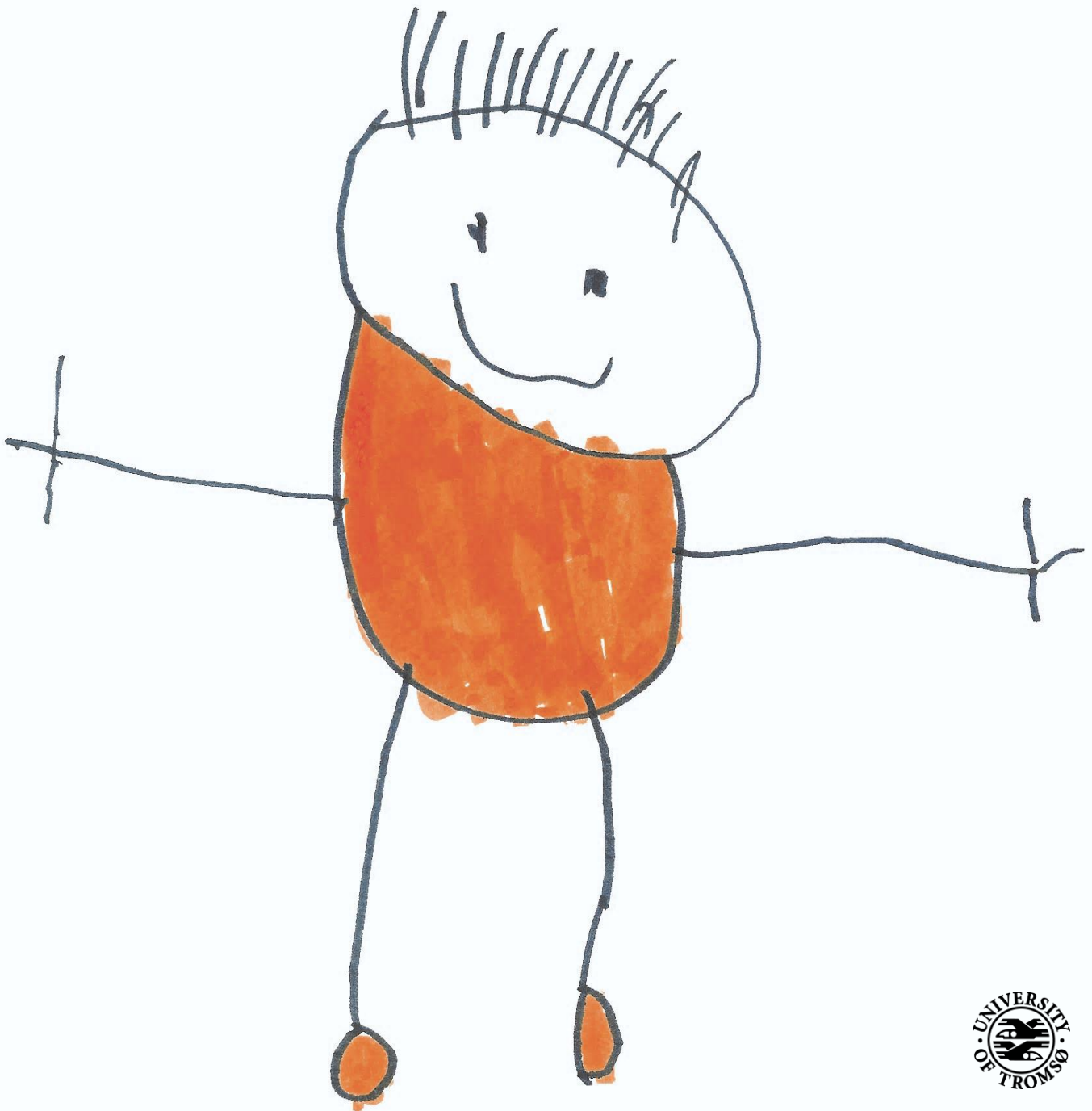
The Faculty of Health Sciences  
The Regional Centre for Child and Youth Mental Health and Child Welfare

## Young children with problem behaviour in school settings:

Evaluation of the Incredible Years Teacher Classroom Management program in a Norwegian regular school setting

**Merete Aasheim**

*A dissertation for the degree of Philosophiae Doctor – April 2019*



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*Tromsø, April 2019*

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## Abstract

Children's early problematic behaviours in school may be developmental precursors of a wide range of negative outcomes, including academic problems, school dropout, crime, mental health problems, future unemployment, and general social exclusion (Ford et al., 2018; Odgers et al., 2008). In Norway, as many as 3.5 – 4.0% of children in early school age exhibit severe externalizing behaviour consistent with a diagnosis (Reneflot et al., 2018). There is a growing policy focus on children's mental health and the health promoting role schools may have (Arrhenius et al., 2015). Children spend many hours per day in school; hence, the school is an optimal setting to promote social skills and emotional self-regulation in children and may serve to counteract risk factors associated with the development of problem behaviour. The school environment and teachers' classroom management skills may therefore play a crucial role in this process by altering early trajectories of behaviour problems and thus contributing to lowering the risk of future behavioural and emotional problems in children (Hamre & Pianta, 2005). The Incredible Years Teacher Classroom Management (IY-TCM) program may present an opportunity to prevent problem behaviour by reducing classroom aggression and non-cooperation with peers and teachers, as well as to improve social and emotional skills in students. The effectiveness of the IY-TCM program implemented as a full-scale universal preventive intervention in regular school settings has not been previously examined. The main aim of this thesis was to evaluate the effectiveness of the IY-TCM program when delivered as universal preventive intervention to all teachers and students at the lower primary school level in Norway. Using a quasi-experimental pre-post comparison group design, the IY-TCM was implemented over an eight- to nine-months period in 21 schools. Reports from teachers, participating in six full-day workshops (42 hours) were compared with reports from teachers in 22 comparison schools. A total of 302 teachers and 1,518 students (6 to 8 years old) took part in the trial. The linear mixed model analyses showed small effects in terms of differences in changes between groups in student's social skills and problem behaviours ( $d_w = 0.08$  to  $d_w = 0.20$ ), and small to moderate effects in teacher-student relationship and teachers' perceptions about parent's involvement in school ( $d_w = 0.15$  to  $d_w = 0.40$ ). No main effects with regard to change in teacher's behaviour management practice, teacher's efficacy, teachers' report of problem behaviours in classroom and school environment and classroom climate at the 0.05 level were detected. This evaluation gives new knowledge of the impact of the IY-TCM program when given as a full-scale universal preventive intervention in regular school settings. For future research, long-term follow-up assessments, identification of barriers against implementation and key features

of successful implementation in regular school settings are recommended. Overall, the findings in the present study suggest potential preventive effects of the IY-TCM program, and gives implications for future school practice with regard to improving the teacher-student-parent relationship and lowering the risk of future behavioural and social problems in schools.

## List of papers

- I. Aasheim, M., Reedtz, C., Handegård, B. H., Martinussen, M., & Mørch, W.-T. (2018). Evaluation of the Incredible Years Teacher Classroom Management program in a regular Norwegian school setting. *Scandinavian Journal of Educational Research*, 1-14. <https://doi.org/10.1080/00313831.2018.1466357>
- II. Aasheim, M., Drugli, M. B., Reedtz, C., Handegård, B.-H., & Martinussen, M. (2018). Change in teacher–student relationships and parent involvement after implementation of the Incredible Years Teacher Classroom Management programme in a regular Norwegian school setting. *British Educational Research Journal*, 44, 1064-1083. <https://doi.org/10.1002/berj.3479>
- III. Aasheim, M., Fossum, S., Reedtz, C., Handegård, B. H., & Martinussen, M. (2018). Examining the Incredible Years Teacher Classroom Management program in a regular Norwegian school setting: Teacher-reported behaviour management practice, problem behaviour in classroom and school environment, teacher self- and collective efficacy, and classroom climate. Manuscript submitted for publication.

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# 1 INTRODUCTION

## 1.1 Background of the study

Schools' unique possibility to reach most children make them a favourable setting in which to implement ideas that promote children's wellbeing and counteract potential developmental difficulties (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011; Weare & Nind, 2011). Research shows that school-based universal preventive intervention programmes can promote positive mental health and create resilience, providing children with the resources to thrive and, in adverse conditions, to cope by buffering the effects of negative stressors (Hosman, Jané-Llopis, & Saxena, 2004; Sancassiani et al., 2015). Originally, the Incredible Years Teacher Classroom Management (IY-TCM) programme was developed to address children with clinical and pre-clinical problem behaviour, suggesting that it was meant for high-risk children. In Norway, the Norwegian Directorate of Health and the Norwegian Directorate for Education and Training recommended the implementation of the IY-TCM programme, provided that it was rolled out as a universal preventive intervention and evaluated in a regular school setting. The program's effectiveness among teachers and children in regular school settings, where the number of high-risk children is low and children are described with few negative demographic indicators, has not been examined previously. The research project described in this thesis was commissioned by the Norwegian Directorate of Health in 2009, and assigned to the Regional Centre for Child and Youth Mental Health and Child Welfare - North (RKBU-North) at UiT the Arctic University of Norway. Hence, the RKBU-North was given the responsibility of implementing the IY-TCM programme in all municipalities in Norway. The Norwegian Directorate of Health funds the implementation of IY programmes in Norway and covers the programmes' administrative and national implementation expenses, including the costs related to the organisation of the programme, and the training, supervision, and certification of IY group leaders. In order to facilitate independence between the implementation of the programme and the corresponding research, the Norwegian Directorate of Health wanted boundaries between these aspects. Therefore, during the research project described in this thesis, the research team, including the PhD candidate, did not participate in the implementation of the IY-TCM programme, nor in the training, supervision, or certification of IY group leaders.

## 1.2 Development of problem behaviour

Moffitt, Caspi, Harrington, and Milne (2002) identified how individual risk factors such as neuropsychological variations in temperament, hyperactivity; cognitive deficits that manifest early in a child's life; and environmental factors such as parental neglect and inconsistent, harsh discipline, may be prerequisites for life-course-persistent antisocial behaviour. Temperamental negative affectivity may also play a causal role in the development of oppositional defiant disorder (ODD) and attention deficit hyperactive disorder (ADHD) (Wichstrøm, Penelo, Viddal, de la Osa, & Ezpeleta, 2017). When childhood biological dispositions (e.g., pre- and postnatal complications and genes) interact over time with contextual strains, such as parental conflict, depression, economic conditions, and high negative maternal stress, these processes may explain the development of antisocial behaviour in children (Snyder & Stoolmiller, 2002). Furthermore, the understanding of how the impact of individual and environmental risk factors mediate the nature of infant-caregiver exchanges and child outcomes, and how these factors may influence the development of problem behaviour indirectly through parenting, is derived from Patterson's Social Interaction Learning (SIL) model (Patterson, 1982). The SIL model describes how family dynamics underlie the development of early-onset problem behaviour and is a transactional model that views individuals and social contexts as dynamic systems that change over time. These dynamic systems initiate coercive interactions between family members by disturbing parenting skills, thereby leading to early-onset behaviour problems in the child (Patterson, Reid, & Dishion, 1992; Sameroff & Mackenzie, 2003). Hence, the SIL model emphasises the importance of relationships and interactions between family members, and how the quality of these interactions may explain the development of behaviour problems and emotional problems in the child. A core concept in the SIL model is coercion or coercive interactions, which refers to the contingent use of reciprocal exchanges of adverse (negative) behaviours between child and parents. This idea of contingency also lies at the core of Patterson's Coercion Theory. Coercion 'training' requires frequent interaction between child and parents who consistently (1) have a high rate of adverse interactions, and (2) have a reliable disposition to withdraw once the other counterattacks. As a result, "the initiator trains the other to use reactions that terminate the unpleasant intrusion" (Patterson et al., 1992, p. 42). This is explained as a process of mutual negative reinforcement, in which the caregivers inadvertently reinforce children's aggressive and difficult behaviours, eliciting caregiver

negativity, and so on, until the interaction is discontinued when one of the participants ‘wins’. For example, a child who does not get permission to use the iPad before breakfast reacts with anger or resistance (i.e., an adverse incident or a coercive act) to the caregiver's directive and initiates a temper tantrum. This, in turn, evokes anger and hostility from the caregiver, which is often intensified as the coercive cycle escalates and continues until either the parents or the child resigns. If the parents resigns and lets the child use the iPad (escape conditioning), the child learns that acting out is functional. Parents contribute by resigning, and the child contributes by acting out (e.g., yelling and hitting). As such, parents inadvertently strengthen their child's aversive behaviour by their cyclical reactions of withdrawal and giving in. Both the parents and the child learn that aggressive and coercive behaviours are effective strategies to ‘win’ conflicts (Patterson, 1982; Smith et al., 2014). Over time, bidirectional coercive interactions in parent-child dyads become habitual; the child learns that negative behaviours ‘pay off’, whereas socially competent behaviours do not. When coercive interactions dominate within the family, problem behaviour may develop and stabilise throughout the child’s development (Kjøbli, 2009). The patterns children learn and use to relate to caregivers and siblings may extend to their relationships with people outside the family, such as teachers and peers in the school environment. Coercive parent-child interactions within the family are often the precursor to problem behaviour at school, and they may represent a pathway to oppositional behaviours or serious antisocial behaviour and academic failure during school age (Smith et al., 2014). Just as in the family, early, minor externalising behaviour in school may develop into more serious behaviour problems due to the reinforcement of negative behaviours during coercive interactions over time between the child and teachers, as well as between the child and his/her peers. The only difference between the home and school setting is the participants in the interactions.

Parent training courses have shown to be effective interventions to improve difficulties at home (Leijten et al., 2018), however, they rarely improve school-based problem behaviour (Scott et al., 2010). Children in schools, who struggle behaviourally, socially, or emotionally, are less likely to benefit from academic instruction. The transition to school may represent a crucial opportunity to interrupt the cascade of problem behaviour and negative social outcomes for these children (Patterson et al., 1992), who often need additional support to adapt to the student role. In order to help these children and meet these challenges in their classroom, teachers must be provided with effective classroom management skills. Effective

school-based interventions that supports teachers could potentially optimise every children's mental health and behaviour as well as among children currently experiencing severe behaviour difficulties.

### **1.3 Prevalence of problem behaviour**

In a recent report by the Norwegian Institute of Public Health (Reneflot et al., 2018), around 7% of pre-school and school-aged children showed symptoms consistent with a mental health disorder. Of these, 4% were diagnosed with early-onset developmental disturbances, such as ADHD, autism spectrum disorders, Tourette's syndrome, and behavioural disorders (Reneflot et al., 2018). Based on population studies in Norway, the prevalence of CD is 0.7% and ODD is 1.8% (3-month estimate) among 4-year-olds and 0.47% and 2.45% among 7-year-olds (point estimation) (Heiervang et al., 2007; Wichstrøm et al., 2012). The corresponding prevalence's were 0.59% and 2.65% (point estimation), respectively, among children aged 5-7 years in a British population study (Ford, Goodman, & Meltzer, 2003), whereas the prevalence of CD was 1.5% (12-months estimate) among children aged 8-11 years in the United States (Merikangas et al., 2010). The incidence of ADHD in Norway was 1.9% among 4-year-olds, and 1.74% among children aged 5-9 years (Heiervang et al., 2007; Wichstrøm et al., 2012), compared to an incidence of 9.9% among children aged 8-11 years in the United States (Merikangas et al., 2010). When it comes to gender differences in Norway, the boy-girl ratio is 3-7:1 for CD, 2:1 for ODD and 3:1 for ADHD (Reneflot et al., 2018). Taken together, the prevalence of problem behaviour in Norwegian children at the lower primary school level seems to be lower than that in children of the same age in Europe and the United States (Heiervang et al., 2007; Kroes et al., 2001; Merikangas et al., 2010; Reneflot et al., 2018; Wichstrøm et al., 2012).

Students included in the research project described in this thesis were screened for the frequency and severity of various student behaviours using the Sutter-Eyberg Student Behaviour Inventory-Revised (SESBI-R) (Eyberg & Pincus, 1999). Only 6% had a SESBI-R Intensity score that was at or above the 90th percentile, which is equivalent to the clinical range (Kirkhaug, Drugli, Mørch, & Handegård, 2012). Hence, the pre-assessment scores on problem behaviour were within the typical normative range of Norwegian children (Kirkhaug et al., 2012). However, our mean pre-assessment scores on problem behaviour seemed to be more favourable (Aasheim, Reedtz, Handegård, Martinussen, & Mørch, 2018) than

Norwegian norms of relevant psychometric measures of problem behaviour reported in previous studies (Kirkhaug et al., 2012; Larsson & Drugli, 2011). It is worth mentioning that, for each child who meets the diagnostic criteria for severe problem behaviour, there are probably three or four others with early-onset problem behaviour or poor mental health (Goodman & Goodman, 2011; Reneflot et al., 2018).

## **1.4 Schools as a universal preventive arena**

Population estimates in the United States indicate that 54% of youths have used mental health services at some time during their lives, and that the education sector was the most common point of entry and provider of services across all age groups (Farmer, Burns, Phillips, Angold, & Costello, 2003). In Norway, mental health problems among children and youth often appear at the primary and lower secondary school level (Heiervang et al., 2007; Wichstrøm et al., 2012).

Transactional coercive development processes that may lead to problem behaviour in children often have their roots in negative family interactions (Patterson, 1982; Sameroff & Mackenzie, 2003). Outside the family context, the child may enter into similar cycles of negative reinforcement processes with teachers and peers; over time, these processes serve to maintain and amplify the child's problem behaviour. If oppositional and defiant behaviours in students are ignored by teachers or maintained by reinforcement processes at school, such behaviours may continue to increase, and thus contribute to an increased risk of school failure, antisocial behaviours, and mental health problems in the future (Jennings & Greenberg, 2009; Webster-Stratton, Reid, & Hammond, 2001).

Because most children spend a large portion of their time in school, it is a setting where the largest numbers of children can be reached. Students' behaviour, their relationships with teacher and peers, and behavioural and social-emotional processes may affect how and what they learn. In order to create optimal learning conditions for all students, schools must effectively address these aspects of the educational process. Hence, in addition to nurturing children's academic and cognitive development, schools have an important function in nurturing children's behavioural and social-emotional development (Barry & Jenkins, 2007).

Interventions may differ in their target populations, objectives, content, and processes, but they may share many core components from common, underlying theoretical constructs (e.g., the different IY programmes). Preventive interventions are often viewed within a

broader mental health intervention framework that distinguishes between prevention and treatment; such interventions are generally categorised as universal, selective, or indicated (Barry & Jenkins, 2007; Greenberg & Abenavoli, 2017). Universal interventions are directed towards all children with varying degrees of risk in a general population, such as all children in a school or class. These interventions aim to reduce a variety of risk factors and promote a broad range of protective factors in the population. Selective interventions target specific-risk and high-risk groups of children, and indicated preventive interventions address individual children with detectable signs or symptoms of a mental health problem (Greenberg & Abenavoli, 2017). In education, the Response to Intervention framework makes similar distinctions between high-quality instruction delivered to all children at the universal level (Tier 1), targeted interventions provided to students who are not making adequate progress at the selective level (Tier 2), and intensive individualised interventions and consideration for special education services at the indicated level (Tier 3) (Arnesen, Meek-Hansen, Ogden, & Sørli, 2014; Sørli & Ogden, 2015). Universal interventions may have different effects, e.g., they may improve (treatment) problem behaviour and prevent early-onset problem behaviour from developing further; or they may promote social and emotional skills that enhance or build resilience, which may prevent problem behaviour (Greenberg & Abenavoli, 2017). One potential disadvantage of universal interventions is that, if used in contexts with a low prevalence of a particular behavioural, educational or public health problem, substantial effort will be spent on children who may not develop negative outcomes. Nevertheless, universal preventive interventions generally have relatively low per-person costs compared to other levels of intervention; in addition, they are positively framed, given independent risk statuses, and have the potential to prevent multiple types of problem behaviour that are predicted by common risk factors (Greenberg & Abenavoli, 2017).

Teachers who are constantly exposed to emotionally provocative situations due to students' problem behaviour may also experience distracting negative emotions that can adversely affect their teaching. Experiencing frequent negative emotions may reduce teachers' intrinsic motivation and feelings of self-efficacy, thus leading to burnout (Jennings & Greenberg, 2009). When teachers are provided with effective classroom management strategies, they can learn to respond to early, minor coercive behaviour in a consistent, predictable, non-harsh manner, which can reduce problem behaviour and prevent these processes from amplifying (Sameroff & Mackenzie, 2003). Improvements in classroom

climate – which directly contributes to students’ social, emotional, and academic success – may also reinforce a teacher’s enjoyment of teaching, as well as their efficacy and commitment to the profession, thereby creating a positive feedback loop that may prevent teacher burnout (Jennings & Greenberg, 2009). It is of significance that school-based interventions encompass strategies that cultivate optimal learning conditions that may benefit all students. “Interventions that supports teachers to optimise children’s mental health and behaviour might benefit every child subsequently taught by that teacher as well as the teacher themselves, and might be substantially more cost-effective than direct work with successive cohorts of children” (Ford et al., 2018, p. 2). In this way, the school environment can play a protective role in a child’s life and serve to counteract risk factors associated with problem behaviour.

## **1.5 The Norwegian school context**

In Norway, the school is mandatory for all children aged 6-16 years. Schools are public and free-of-charge, and as such represent an optimal setting for universal preventive interventions aimed to alter important social behaviour outcomes in children. Schools are divided into the categories small (<200 students), medium (201-350 students), and large (351-780 students) (Nygård, 2014). Each grade follows a single, national curriculum, which is based on the concept of equality, inclusion, and adapted education for all. In total, about 633 029 students are enrolled at the lower (grades 1-4, ages 6-10 years) and upper (grades 5-7, ages 10-12) primary school level. The average ratio of students to teachers at the primary and lower secondary school level is about 16:1, although 32% of schools have an average ratio higher than this. At the time of this research project, about 84% of teachers at the primary and lower secondary school level fulfilled teacher qualification requirements (i.e. lower degree university or college with teacher training) and about 4% had higher degree university or college with teacher/education science (Nygård, 2014). The lower primary school level was the population of interest in this research project. About 447 355 students were enrolled at this level, 8% of whom were non-Norwegian and had a different first language. These students received special Norwegian language classes in parallel to their ordinary education. About 8% of all lower primary school students (68% boys) received special educational assistance (39% as part of ordinary classes; not in segregated settings).



As mentioned, only 6% ( $n = 83$ ) of students had scores equal to the clinical range, (SESBI-R Intensity score  $> 144$ ). This is in contrast to prior evaluations of the IY-TCM programme, in which the majority of students examined came from adverse backgrounds, e.g., high-poverty schools in urban areas or schools with a high proportion of students with clearly identified severe problem behaviour (Baker-Henningham, Scott, Jones, & Walker, 2012; Hickey et al., 2017; Hutchings, Martin-Forbes, Daley, & Williams, 2013; Leckey et al., 2016; McGilloway et al., 2010; Webster-Stratton, Reid, & Stoolmiller, 2008). Additionally, these prior evaluations addressed only a limited group of teachers, classes, or students. It is currently not known whether the IY-TCM programme can provide comparable benefits when implemented as a full-scale universal preventive intervention to a student population at low risk of problem behaviour.

## **1.6 Student, teacher and school risk factors**

Student factors associated with increased social, emotional, and behavioural difficulties in school may be related to social-cognitive, emotional regulation, language, and developmental delays that contribute to disruptive behaviours in school (Dodge, 2008). Between 30 and 40% of young children with ADHD are comorbid with CD or ODD (Loeber & Farrington, 2000; Reneflot et al., 2018). These children may also experience depression, but their emotional problems often manifest as disruptive behaviour due to their lack of emotional language (Webster-Stratton & Herman, 2008). Children who enter school with poor school-readiness skills, such as difficulties controlling their negative emotions, paying attention, and following teacher directions, are more likely to develop problem behaviour and social-emotional difficulties, as well as learning problems. They are also more likely to be rejected by their classmates and receive less positive feedback from teachers, which in turn, leads to more off-task behaviour and less learning time (Buhs, Ladd, & Herald, 2006; Webster-Stratton, 2012). When children exhibit negative behaviours in school, most contact between teachers and parents is related to these behaviours. After some time, these parents may feel reluctant to stay in contact with the teacher or even try to avoid contact. Indeed, parents of students with problem behaviour often show poor parent involvement with schools and with their children's learning goals, which may perpetuate problem behaviour (Webster-Stratton et al., 2008).

Students with problem behaviour are at higher risk of developing negative relationships with their teachers (Drugli, 2013; Mejia & Hoglund, 2016; Silver, Measelle, Armstrong, & Essex, 2005; Zee & Koomen, 2017). Distrust, discordance, a high level of conflict, and a low level of closeness often characterise negative student-teacher relationships, which, over time, may lead to the escalation of problem behaviour and academic difficulties (Hamre & Pianta, 2001; Roorda, Verschueren, Vancraeyveldt, Van Craeyveldt, & Colpin, 2014). Low rates of praise and harsh discipline, negative teacher-student interactions, failure to focus on the social-emotional curriculum, and low emphasis on collaboration between school and home have been linked to increased risk for poor academic performance, aggression, and problem behaviour in students (Reinke & Herman, 2002; Simonsen, Fairbanks, Briesch, Myers, & Sugai, 2008). Furthermore, Pianta and Stuhlman (2004) found that a poor teacher-student relationship was associated with externalising and internalising behaviour problems, school disengagement, drop-out, and poor learning (Pianta & Stuhlman, 2004).

Teachers are in one of the best positions to address children's behavioural and mental health needs on a daily basis. However, they may lack the resources and knowledge on how to do so (Reinke, Stormont, Herman, Puri, & Goel, 2011). Negative teacher-student interactions are more likely to occur in poorly managed classrooms (Conroy, Sutherland, Haydon, Stormont, & Harmon, 2009; Reinke & Herman, 2002), and these classroom environments contribute to the risk of developing problem behaviour (Webster-Stratton, Reid, & Hammond, 2004). In a poorly managed classroom, teachers faced with students displaying significant behavioural, social, and emotional difficulties may not have the adequate support to manage these problems. Teacher education programmes may fail to equip future educators with effective classroom management and behaviour management strategies, or with social learning theories and theories about child development (Evertson & Weinstein, 2006). Surveys indicate that few teachers have been trained to deliver evidence-based social and emotional skills curricula, and that many schools do not use an evidence-based social and emotional curriculum (Gottfredson & Gottfredson, 2002). Teachers may frequently use reactive strategies (e.g., imposing classroom rules), perhaps due to a lack of knowledge about the effectiveness of preventive strategies (e.g., negotiation of classroom rules) or by a lack of belief in their effectiveness (Korpershoek, Harms, de Boer, van Kuijk, & Doolaard, 2016).

## **1.7 The Incredible Years Teacher Classroom Management programme**

The IY-TCM programme was originally developed in the United States by Carolyn Webster-Stratton. It is part of a comprehensive series of interventions including parent, child, and teacher training components that were designed to promote emotional, social, and academic competence, and to prevent, reduce, and treat behavioural and emotional problems. The IY-TCM programme focuses on strengthening teachers' classroom management strategies, such as the use of proactive strategies before reactive strategies. The programme also focuses on how to strengthen relationships with students and parent involvement. Other important components of the programme include improving students' prosocial behaviour, emotional self-regulation, and school readiness, as well as preventing and reducing problem behaviour, aggression, and non-cooperation with peers and teachers (Webster-Stratton, 2019).

The different IY programmes, including the IY-TCM programme, are derived from theories on how coercive cycles of interaction between the child and others in the environment may reinforce the development of problem behaviour. In addition to the strong emphasis on Patterson's Coercive Theory (Patterson, 1982), the main components of the IY-TCM programme are based on Bowlby's and Ainsworth's theories of attachment and the importance of positive relationships between child and caregiver (Ainsworth, 1974; Bowlby, 1980). As these theories emphasise the significance of emotions, affective processes, and the quality of relationships, the relational approach is seen as the fundamental component of the IY-TCM programme. Furthermore, the use of child-directed play and coaching strategies are emphasised in order to influence affective and relational aspects (Webster-Stratton & Reid, 2010). A key assumption of the IY programmes is that children's behaviours are learned through interactions with significant people, particularly parents, teachers, and peers (Webster-Stratton & Reid, 2010). Based on the Social Learning Theory (Bandura, 1977), the importance of modelling and the fact that children learn a behaviour not only by experiencing its direct consequences but also by observing similar behaviour and its consequences, is also emphasised. The Social Learning Theory also posits that a significant contributor to early childhood externalising symptoms is negative or coercive encounters within a harsh social environment (Bandura, 1986; Webster-Stratton, 2012). It is also important that the programme's content is adapted to the child's age, and psychological and cognitive development, in accordance with Piaget's learning approach (Piaget & Inhelder, 1962). Taken

together, the logical assumption regarding the process of behavioural change in children is that the environment in which the child develops must first be systematically altered. The same core components described in the SIL model and Patterson's Coercive Theory (Patterson, 1982; Patterson et al., 1992) that maintain deviant behaviours (e.g., conditioning and reinforcement), may also contribute to the alteration of deviant behaviour to more prosocial behaviour (Patterson, Reid, & Eddy, 2002).

In accordance with the policy provided by IY Norway and the Norwegian authorities, the IY-TCM programme was implemented as a full-scale universal preventive intervention at the lower primary school level. Two experienced, qualified group leaders conducted six, full-day workshops (42 hours in total) over an 8-9-month period, starting in the fall and ending in the spring of the following year, with about 5-6 weeks between each workshop. Teachers were trained in groups of 15-20. The following six topics are covered in the IY-TCM programme, with one workshop for each topic, in which each workshop builds upon the content of the previous one: (1) building positive relationships with students and preventing problem behaviour - the proactive teacher; (2) the importance of teacher attention, coaching, and praise; (3) motivating students through incentives; (4) reducing inappropriate behaviour - ignoring and redirecting; (5) reducing inappropriate behaviour - follow-through with consequences; (6) emotional regulation, social skills, and problem solving. Workshops 1 to 3 emphasise a positive relationship between teachers and students, between teachers/parents and students, and between peers. The significance of positive relationships constitutes the foundation of the IY-TCM programme. Positive relationships are promoted through the teachers' use of proactive teacher classroom management strategies, such as the focusing attention on student's positive behaviours, the use of encouragement and praise, as well as coaching of prosocial behaviour, emotional regulation, and problem solving. These components are significant strategies that must precede before strategies aimed at reducing inappropriate behaviour, such as the use of ignoring, redirecting and follow through with consequences. In general, teachers' attention to students' positive behaviour should occur far more frequently than attention to negative behaviours as illustrated at the bottom of the IY-TCM Teaching Pyramid (see Figure 1).

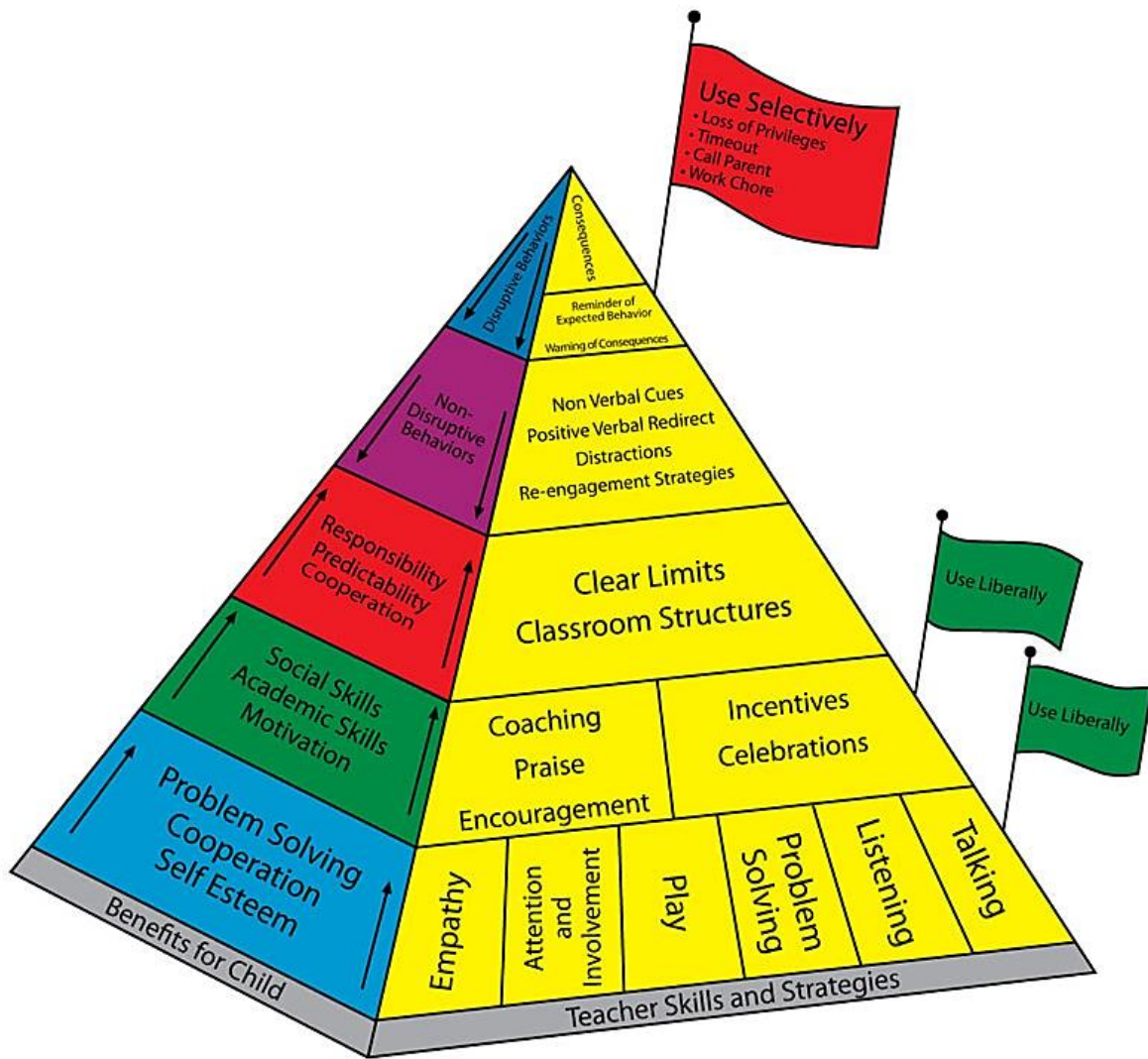


Figure 1. ©The IY TCM Teaching Pyramid®



Teachers were instructed to practice their new skills between workshops, and to report back on their experiences at the start of the following workshop. During the workshops, a variety of training strategies, methods, and techniques are introduced (e.g., the use of role-play, film-vignettes, group discussion, reflection, and practice) (see Figure 2). The textbook, *How to Promote Social and Emotional Competence in Young Children* (Webster-Stratton & Okstad, 2005), was provided to teachers, and they were asked to read sections for each workshop as recommended by the IY-TCM programme manual. Between workshops, teachers were asked to reflect on their current practice and to set goals for implementing specific strategies in their classrooms. Between workshops, teachers were also offered in-class consultation and coaching by the group leaders. The group leaders were offered regular supervision and consultation from certified IY mentors and trainers, during which group leaders were asked to bring film recordings of their workshops. The agenda for these supervisions was fixed, and included how to get the most out of the programme's film-vignettes and how to direct an effective role-play, as well as discussing issues related to programme delivery. To ensure evidence-based implementation of the programme and fidelity in training, teachers and group leaders were asked to complete teacher and group leader fidelity measures, such as the IY Workshop Evaluation form, the Teacher Workshop Checklist, and the Teacher Satisfaction Questionnaire (Webster-Stratton, 2018). The IY-TCM Programme Logic Model (see Figure 2) outlines the programme components and goals, programme modalities, targeted risk and protective factors, as well as the programme's short-term and hypothesised long-term outcomes. The programme goals are listed in the left column and suggest that the programme targets teachers rather than students, which reflects the logical assumption that change in student behaviour may result from changes in teacher behaviour.

# The Incredible Years Teacher Program

Program developed by Carolyn Webster-Stratton, Professor and Director of the Parenting Clinic at the University of Washington.

Logic Model created by the Evidence-based Prevention and Intervention Support Center (EPISCenter) at Penn State University and Carolyn Webster-Stratton, Professor, University of Washington

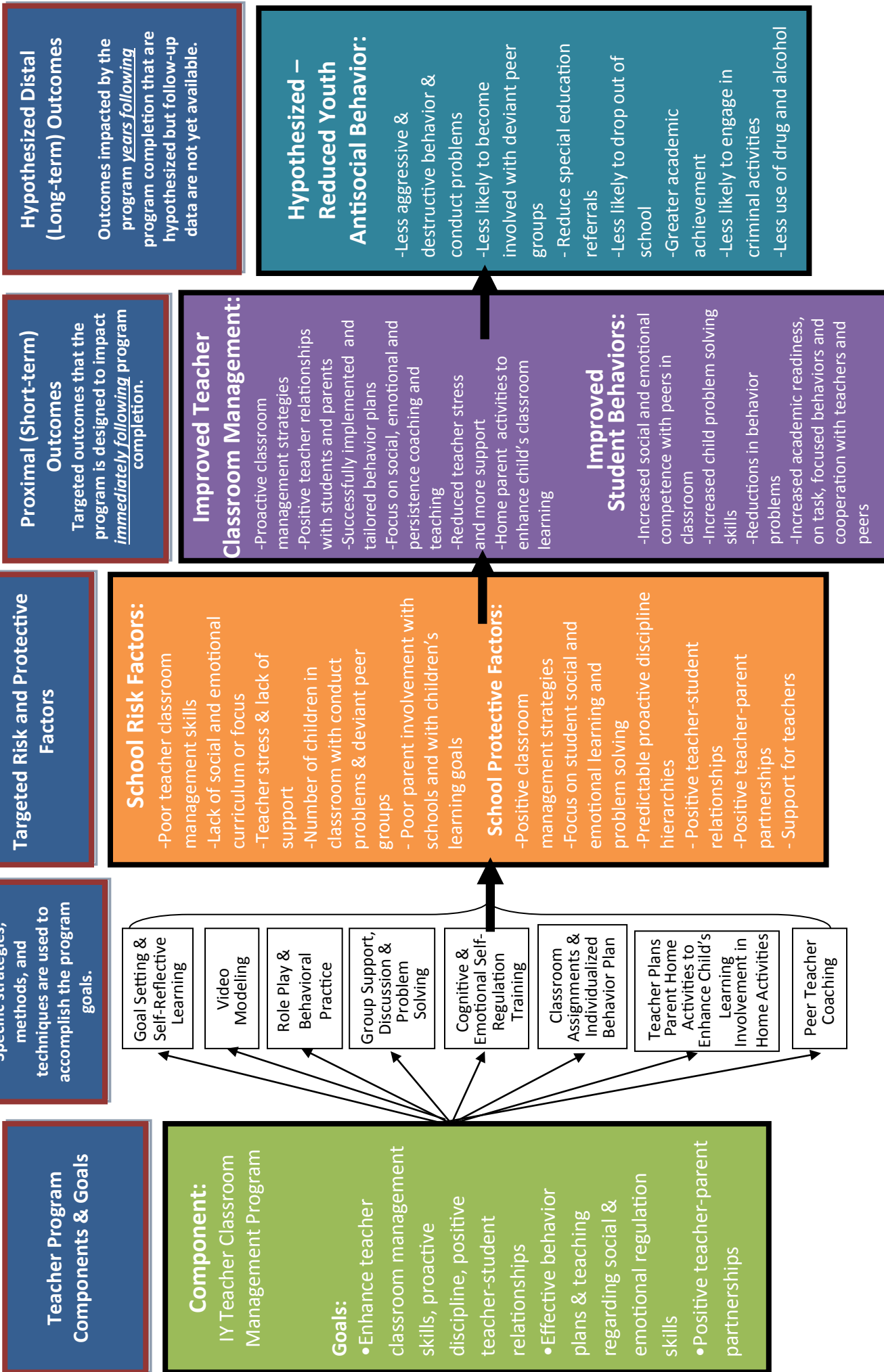


Figure 2. ©The IY-TCM Programme Logic Model ® 16

### **1.7.1 Supporting evidence for the Incredible Years Teacher Classroom Management programme**

Outcomes in earlier evaluations of the IY-TCM programme varied; some studies measured both teacher and student outcomes, while others focused on only teacher or only student outcomes. Studies conducted by the IY programme developer examined combinations of teacher, parent, and child programmes and documented significant changes in children's behaviour problems at school and reductions in teachers' negative classroom behaviours (Webster-Stratton et al., 2001, 2004; Webster-Stratton et al., 2008). An important aim of the IY-TCM programme is to reduce the number of commands given by teachers and, in turn, increase child compliance (Webster-Stratton, 2012). In an independent evaluation of the IY-TCM programme, a significant main effect on child compliance to teacher commands was found, and significant reductions was observed in child negative behaviour towards the teacher, as well as child "off-task behaviour" for targeted children (Hutchings et al., 2013). In the McGilloway et al. (2010) study, an increase in students' social-emotional development, such as improved self-regulation and cooperation skills, was found. Furthermore, in the Baker-Henningham et al. (2012) study, a reduction in students' problem behaviour and an increase in their social skills reported by teachers were found, as well as a reduction in parent-reported behaviour difficulties (Baker-Henningham et al., 2012). In more recent studies, students with initial elevated problem behaviour scores and low social competence scores showed significant improvements in social skills after the IY-TCM programme, when compared to peers with similar scores in control classrooms (Fossum, Handegård, & Drugli, 2017; Reinke, Herman, & Dong, 2018; Seabra-Santos et al., 2018). In the sub-sample of high-risk students with elevated intensity scores on problem behaviour from the present study, Kirkhaug et al. (2016) reported positive effects of the IY-TCM programme on teacher-student conflict and academic performance. Conversely, for this sub-sample, the study revealed no main effect of the programme on students' problem behaviour or social competence (Kirkhaug et al., 2016). In a younger kindergarten cohort within the same study population as ours, reduction in the intensity of problem behaviour, aggression, internalising, and attention problems, as well as an improvement in social skills, were found after the IY-TCM programme was implemented as a universal preventive intervention (Fossum et al., 2017). In contrast to these findings, a recent study by Murray, Rabiner, Kuhn, Pan, and Sabet (2018) reported no main effects on student outcomes, although a priori moderator analyses indicated



that students with elevated social-behavioural difficulties benefitted with regard to prosocial behaviour and inattention. Finally, in a recent study of the effectiveness and cost-effectiveness of the IY-TCM programme as a universal intervention in primary school children, a small significant main effect for improvement in teacher-reported child mental health was found (Ford et al., 2018). At 9-month follow-up, the Strengths and Difficulties Questionnaire (SDQ) Total Difficulties score changed by 1.0 point (95% confidence interval [CI] 0.1-1.9;  $p = 0.03$ ), but at 18- and 30-month follow-up, these changes were no longer significant. Significant secondary findings were confirmed for reduced disruptive behaviour and inattention/over-activity; reduced percentage of children classified as struggling, and reduced peer relationship problems, as well as an improvement in prosocial behaviour. The observed better outcomes after the IY-TCM programme (improvement in SDQ scores) and the cost-effectiveness analysis suggest that IY-TCM programme may be cost-effective when compared with the control (Ford et al., 2018).

Teacher outcomes after the IY-TCM programme were evaluated using both observational and self-report measures, and several studies found a significant reduction in harsh/critical teacher behaviours and an increase in warm/responsive teacher behaviours (Baker-Henningham & Walker, 2018; Hickey et al., 2017; Leckey et al., 2016; McGilloway et al., 2010). The McGilloway et al. (2010) study reported significant changes in teacher-reported frequency of use, and perceived usefulness of positive classroom management strategies, as well as a significant decrease in the use of inappropriate strategies for managing misbehaviour. Using both psychometric and observational measures, Hickey et al. (2017) and Leckey et al. (2016) reported positive changes in teacher-reported use of positive classroom management strategies and negative classroom management strategies, as well as higher levels of teacher self-efficacy. Further, a reduction in negative teacher behaviour towards targeted children was found in the Hutchings et al. (2013) study. In the Murray et al. (2018) study, teachers in the IY-TCM group rated their classroom climate significantly more positively than did control teachers at post-intervention. Improvements in teachers' assumptions about parent involvement in school and their knowledge of strategies to improve such parent involvement were also found after the IY-TCM programme (Herman & Reinke, 2017).

Previous meta-analyses of school-based universal interventions looked at the magnitude of intervention effects on student outcomes and reported a mean magnitude  $g$  of

0.22 (Durlak et al., 2011; Korpershoek et al., 2016). A recent mixed-methods systematic review on the effectiveness and experiences of the IY-TCM programme included 22 articles on 9 studies. Quantitative findings showed a moderate effect of the programme on conduct problems ( $g = -0.35$ ), a small effect on child behaviour difficulties ( $g = -0.11$ ) among high-risk children, and a small effect on child behaviour difficulties among all children ( $g = -0.11$ ) (Nye, Melendez-Torres, & Gardner, 2018). A moderate effect on teachers' use of negative classroom management strategies ( $g = -0.49$ ) was also found, whereas teachers' use of positive classroom management strategies was not significant (Nye et al., 2018).

Previous research has mainly been conducted in disadvantageous or high-risk school settings or has addressed a limited group of teachers, classes, or students. This research project described in this thesis expands the research on the IY-TCM programme by addressing the entire student population with varying degrees of behavioural risk in general school settings. Hence, this thesis may add new findings to the existing knowledge about the IY-TCM programme. However, when interventions are examined in disadvantageous school settings, the effects are often greater than those observed in universal school settings (Durlak et al., 2011; Weare & Nind, 2011). Therefore, as the IY-TCM programme was implemented as a universal preventive intervention in a regular school setting, large effects were not expected in the present research project.

Most teachers are not trained to identify and use evidence-based practices, partly due to differences of opinion about what constitutes evidence. The failure to train teachers to identify and use effective, evidence-based practice may be due to the strong resistance educators have to testing, measurement, and behaviour management practices (Evertson & Weinstein, 2006). Indeed, the behavioural perspective on teaching and classroom management practices has not traditionally been highly regarded among the Norwegian education community (Fyhn, 2017). Furthermore, qualitative findings have shown that critiques of the IY-TCM programme mostly refer to its manualised nature, specific learning techniques (e.g., the use of time-out and ignoring), fidelity, and adaptation. For example, the limited degree of flexibility in delivering manualised training and the limited applicability of film-vignettes to non-American educational contexts (Fyhn, 2017; Nye et al., 2018).

## **1.7.2 Implementation of the Incredible Years Teacher Classroom Management programme in the Norwegian context**

As the Norwegian Directorate of Health in Norway funds the IY programmes, the authorities have given recommendations on how to implement the programme in different municipalities and schools in Norway. The programme developer has also provided guidelines related to the programme's infrastructure, fidelity, and implementation components; and how to facilitate organisational processes and resources, which the municipalities and schools are requested to follow. In Norway, the municipalities own the schools; hence, the municipality was mainly responsible for correctly implementing the IY-TCM programme in their schools. Given its comprehensive implementation policy, municipalities that wanted to implement the programme in their schools had to submit an application form, which includes an Agency Readiness Questionnaire for programme implementation, to IY Norway. A corresponding application form also had to be completed by the individual schools. If the application was approved, up to three municipal employees, usually from the educational-psychological service, participated in a 21-hour mandatory IY-TCM group leader training course provided by IY Norway. To be eligible to become group leaders, these employees had to have a bachelor's or master's degree in teaching, special education, psychology, health, or social studies, as well as suitable personal characteristics. In addition, the municipality had to agree to provide sufficient time for the group leaders to deliver the basic IY-TCM workshops (42 hour) and carry out subsequent supervision (e.g., in class consultation and coaching) between workshops, which implied dedicating 30-50% of the group leaders full-time position (depending on the number of schools in the municipality) to the programme. The group leaders were trained and supervised by the same two IY-TCM mentors (certified in both the Parenting and the TCM programme by the programme developer), throughout the data-acquisition period. The municipalities and schools were offered continuous implementation support from IY Norway, both during programme start-up and following programme delivery.

## 2 THESIS AIMS

The main aim of this thesis was to evaluate the effectiveness of the IY-TCM programme when delivered as a universal preventive intervention to all teachers and students in regular school settings at the lower primary school level in Norway. All outcomes were reported by teachers. The main outcomes examined were change in student behaviours and teacher-student-parent relationships, change in teacher behaviours (teachers' behaviour management practice and self- and collective efficacy), problem behaviour in the classroom and the school environment, and classroom climate.

**Paper I** evaluated whether training teachers in the IY-TCM programme would lead to changes in problem behaviour and social skills in students from pre- to post-assessment. Group differences in pre-post changes in problem behaviour and social skills in favour of students in the IY-TCM group were expected.

**Paper II** evaluated whether training teachers in the IY-TCM programme would change teacher-student relationships (i.e., reduce conflict and increase closeness) and teacher-parent involvement (i.e., increase involvement and bonding with parents) from pre- to post-assessment. Group differences in pre-post changes in teacher-student relationships and teacher-parent involvement in favour of the IY-TCM group were expected.

**Paper III** evaluated whether training teachers in the IY-TCM programme would change teacher-reported behaviour management practices (e.g., use of positive behaviour support strategies and behavioural correction strategies), problem behaviour in the classroom and the school environment, teachers' self- and collective efficacy, as well as classroom climate from pre- to post-assessment. Group differences in pre-post changes in teacher-reported behaviours, problem behaviour in classroom and the school environment, as well as classroom climate in favour of teachers in the IY-TCM group were anticipated.

### **3 METHODS – PAPER I, II AND III**

The study was conducted as an effectiveness study using a quasi-experimental pre-post comparison group design. The data in the three papers that make up this thesis are derived from the same study cohort. Data on teacher-reported individual student's behaviour are included in Paper I; data on teacher-reported relationships with individual students and parent involvement are included in Paper II; and data on changes in teacher behaviours, problem behaviour in the classroom and the school environment, as well as classroom climate reported by teachers are included in Paper III.

#### **3.1 Sample and recruitment**

From the fall of 2009 to the fall of 2013, IY Norway invited schools from 17 different municipalities located in the southern, western, eastern and northern parts of Norway to be part of the research project (see Figure 3). Intervention schools were recruited from municipalities that had already implemented the IY Parenting programme, and hence, already had potential IY group leaders who also could be trained in the TCM programme. In order to be included in the research project, intervention schools had to agree to full-scale implementation of the IY-TCM programme in first to third grade, and programme implementation had to be approved by at least 80% of the school's staff. Schools that wanted to implement the IY-TCM programme and participate in the research project had to first apply to IY Norway. Of the 25 schools that applied, 21 met the inclusion criteria, and were finally allocated to the intervention group (IY-TCM group). The other four schools did not meet the inclusion criteria for organisational reasons (e.g., did not find time to receive six, full-day workshops for all teachers at the lower primary school level), and thus they accepted to be allocated to the comparison group. They were the only four schools in the comparison group recruited from a municipality with IY implementation (see Figure 3, the Verdal municipality).

To minimise programme contamination, IY Norway contacted the educational-psychological service in strategically selected municipalities without any IY implementation in relation to location and school size and invited schools in these municipalities to participate as part of the comparison group. Of 32 invited schools, 19 accepted to participate, but one withdrew before pre-assessment. Therefore, the final study sample consisted 43 schools: 21 in the IY-TCM group and 22 in the comparison group. As the implementation of the IY-TCM programme in Norway was funded by the Norwegian Directorate of Health, the schools in the

IY-TCM group received the intervention for free; hence, the expenditures in connection with programme implementation were low. Schools in the comparison group were offered a modest financial compensation for not receiving the IY-TCM training immediately. Provided the schools in the comparison group wanted the IY-TCM training after the study, they were given support from IY Norway to this. None of the 43 remaining schools was actively attending or had attended any other evidence-based school intervention programme during the previous year.

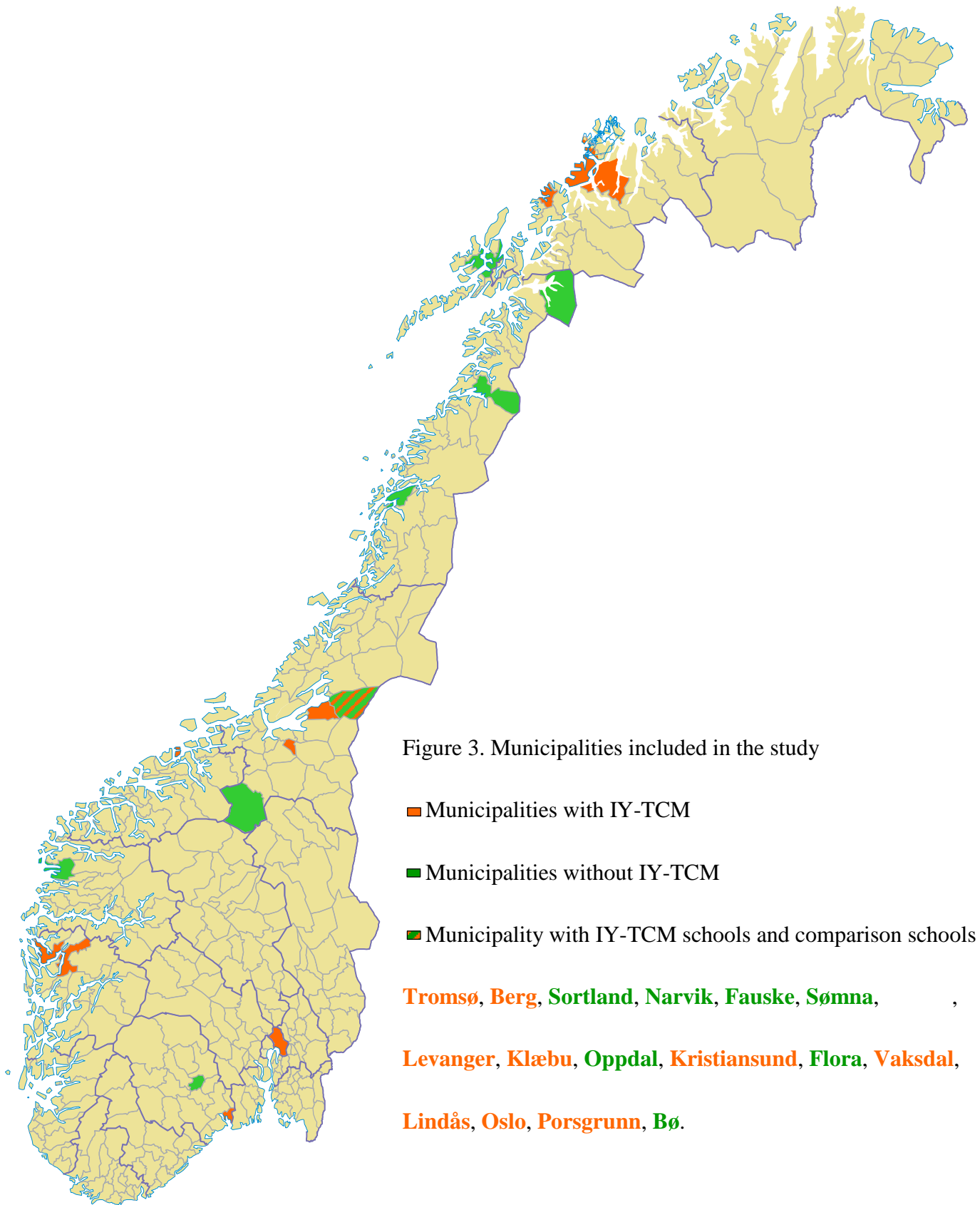


Figure 3. Municipalities included in the study

■ Municipalities with IY-TCM

■ Municipalities without IY-TCM

■ Municipality with IY-TCM schools and comparison schools

**Tromsø, Berg, Sortland, Narvik, Fauske, Sømna,** ,  
**Levanger, Klæbu, Oppdal, Kristiansund, Flora, Vaksdal,**  
**Lindås, Oslo, Porsgrunn, Bø.**

## **3.2 Participants**

In this research project, participants consisted of teachers and students in first-to-third grade (students aged 6 to 8 years). The total number of teachers in participating schools was 567; however, only one teacher per class was invited to complete a questionnaire about student behaviour (Paper I) and the teacher-student relationship and parent involvement (Paper II). In total, 241 teachers (139 in the IY-TCM group and 102 in the comparison group) agreed to complete questionnaires. In Papers I and II, 227 teachers completed pre-assessment questionnaires and 212 completed post-assessment questionnaires (detailed flowcharts are included in Papers I and II). In Paper III, an additional 61 teachers completed questionnaires on teacher behaviours (teachers' behaviour management practices, problem behaviour in the classroom and the school environment, teacher self- and collective efficacy, and classroom climate) for a total of 302 teachers (163 in the IY-TCM group and 139 in the comparison group). Two hundred seventy-seven teachers completed pre-assessment questionnaires (151 in the IY-TCM and 126 in the comparison group), and 235 completed post-assessment questionnaires (121 in the IY-TCM and 114 in the comparison group) (detailed flowcharts are included in Paper III).

The total number of students in participating schools was 3331, but only seven students per class were randomly selected to participate in the study. A statistician in the project, who was blind to the characteristics of the schools, teachers, and students, was given the number of students in each class, and electronically generated a random number sequence list of the students in each class. Each class teacher matched the first seven random numbers from the list with the student's alphabetical order in class. This randomisation resulted in a total of 1518 students (829 in the IY-TCM and 689 in the comparison group). For Papers I and II, 1396 students participated at pre-assessment (744 in the IY-TCM and 652 in the comparison group), and 1214 students participated at post-assessment (577 in the IY-TCM and 637 in the comparison group) (detailed flowcharts are included in Papers I and II).

## **3.3 Procedure**

In this research project, the intervention was implemented at the school level (the lower primary school level), so the relevant allocating units were schools rather than students. Hence, randomising classes or students was not a relevant option. Moreover, since the implementation of the IY-TCM programme depended on the presence of available, qualified



group leaders in the municipalities, a randomised controlled trial was difficult to accomplish (see the Discussion for further details). As previously mentioned, extensive predefined IY-TCM programme implementation criteria had to be met before a school could be included in the IY-TCM group. Schools were also informed in advance that the terms for programme implementation were that they would also be enrolled in the study if their application was approved by IY Norway. Information on the IY-TCM programme and data collection procedures was presented to teachers before they completed the pre-assessment questionnaire and at the first IY-TCM workshop. Pre-assessment questionnaires were completed in the fall, about 3 weeks before the first IY-TCM workshop. Post-assessment questionnaires were completed in the spring of the following year, about 3 weeks after the final IY-TCM workshop. The duration between the two assessments was typically 8-9 months. Parents of students in both groups were informed about the study, including the data collection procedures, through written information or verbal presentation during parent meetings, and were requested to consent to their child's participation. Schools, teachers, and students were anonymised using ID codes generated by a research coordinator. A research coordinator prepared lists of ID codes for students (based on the random number sequence list of the students) and teachers, written information, and questionnaires and consent forms, and distributed these materials to the schools. The headmaster forwarded the materials to teachers in first-to-third-grade. The class teacher matched the first seven random numbers from the list of ID codes with the student's alphabetical order in class and handed out written information and consent forms to these students. Thereafter, the class teacher collected the consent forms from parents. If parental consent was received, the teacher filled out questionnaires about the student. The questionnaires were only available in Norwegian, so students with parents who did not speak Norwegian were excluded. Parents could withdraw their child from the study at any time without explanation. The questionnaires were returned in pre-paid envelopes or electronically through the Internet survey tool QuestBack.

### **3.4 Statistics**

Analyses were conducted using the Statistical Package for Social Sciences (SPSS 24). Students and teachers from 21 intervention and 22 comparison schools constituted the study sample for the three papers. The power calculations for the study were based on the number of randomised students included, which was large ( $n = 1518$ ) (adjusting for the design effect,

which was students nested within teachers), hence, the power to detect relatively small effects in the student sample were considered to be sufficient. Two hundred forty-one teachers participated in Paper I and II and 302 in Paper III, which is in accordance with the number included in previous studies (Webster-Stratton et al., 2008).

The data structure in this study was hierarchical. In Papers I and II, the students were the unit, with students (level 1) nested within teachers (level 2). In Paper III, the teachers were the unit, with teachers (level 1) nested within schools (level 2). When planning the design of the study, the need to correct for the school level (e.g., in Papers I and II) was assessed based on the assumption that the student observations clustered within the teachers' were the most significant clustering (e.g., the variation between schools was low). Hence, it was concluded that a two-level model approach was sufficient to handle the hierarchical structure of the data in the present research project.

To account for the clustering of data, a multilevel approach was used. The dependency in the data was handled by linear mixed models analyses, which is a suitable method for analysing hierarchical data. One teacher per class completed questionnaires for up to seven students. Grouped data observations from the same class are generally more similar than observations from different classes, and this violates the assumption of independent observations (Hox, 2010). Clustering affects statistical power; hence when determining the sample size in a two-stage sample, clustering should be taken into account. The amount of dependency in the data can be expressed as the intra-class correlation coefficient (ICC), which addresses the true total variation in outcomes that could be attributed to differences between the clusters. The design effect is a number that indicates how much the sample size in the denominator (standard error = standard deviation [SD]/ $\sqrt{\text{sample size}}$ ), should be adjusted due of the sampling design used. The ICC is denoted as  $p_r$  ( $p_r$  = population variance between macro-units/total variance). The design effect of a two-stage sample with equal group size is given by the formula: Design effect =  $1 + (n - 1)p_r$  (Snijders & Bosker, 2012, p. 23). When  $p_r$  increases (clusters become more homogeneous) in two-stage sampling, and as the group size  $n$  increases, the two-stage nature of the sampling design becomes stronger. In practice,  $p_r$  is unknown. However, the total sample size can be derived using a two-stage sampling design based on the desired level of precision. Hence, the effect of this dependency is a linear function of the number of students per teacher (Snijders & Bosker, 2012, p. 24). ICCs were

calculated on both pre-assessment, post- assessment, and change scores to estimate the degree of dependency within teachers in Papers I and II, and within schools in Paper III.

Possible confounders related to the selection process were controlled for by including them in the multilevel analyses. In Papers I and II, the covariates student gender, grade, ethnicity, if the student received special education (yes/no), how well the teacher knew the student, number of hours per week the teachers taught the student, and number of students in each class, were statistically accounted for in the multilevel analyses. In Paper III, the covariates teachers' gender, teachers' education, whether teachers were qualified for special education (yes/no), and school size, were statistically accounted for.

In the main analyses, the change score (defined as pre-assessment score minus post-assessment score) was used as the dependent variable in Papers I-III. Multiple imputation was used to handle the missing data in Papers I and II, creating 20 complete sets of data. The imputation was performed on both on pre- and post-assessment student variables. The imputation model included demographic variables and all relevant student variables. When imputing missing pre- and post-assessment data, all other pre- and post-assessment student variables were used as predictors. Under the assumption that data were missing at random, multiple imputation is an appropriate and flexible way to handle missing data. Therefore, multiple imputation was done to ensure that the pre-post analyses reflected the full student sample participating in this study, using all the observed data (Stuart, Azur, Frangakis, & Leaf, 2009).

In Papers I and II, effect sizes ( $d_w$ ) were computed as standardised group differences in pre-post mean change using the pooled within-cluster sample SD (Hedges, 2007). In Paper III, effect sizes ( $d$ ) were calculated according to Feingold (2013) recommendations, where the standardised mean difference was calculated based on the unstandardised mean difference divided by the SD, where SD is the pooled, within-group SD of the raw outcome scores at pre-assessment.

### **3.5 Ethics**

The Regional Committee for Medical and Health Research Ethics, Norway, approved the research project (2009/655/REK North). The research project was retrospectively registered as a trial on November 10<sup>th</sup>, 2016 (Clinical Trials. gov NCT02962843).

In this research project, the IY-TCM programme was delivered as a universal preventive intervention to all teachers at the lower primary school level in a regular school setting. The programme is meant to contribute to adaptive coping across classes, with the aim to prevent multiple types of problem behaviour that are predicted by common risk factors. The programme was positively framed, was provided independent of students risk status, and was non-stigmatising. Hence, the probability that the programme could cause adverse effects was small. The research project was presented to participating schools, teachers, and staff through informational meetings. Parents were informed about the research project and the data collection procedures either during parent meetings or in writing before they were requested to consent to their children's participation. Once parents provided consent, the class teacher could complete the questionnaires about the student. The statements in the informed consent form emphasised that participation was voluntary and refusal to participate would not result in any negative consequences. In addition to teachers, the parents of selected students were requested to complete questionnaires about their child's behaviour. The questionnaire was only available in Norwegian. Hence, if the parents of the selected student did not speak Norwegian, the student was excluded from the research project. About 8% of students at the primary level are non-Norwegian, and have a first language other than Norwegian. In this study, 5.5% of the study sample was non-Norwegian (4.6% in the IY-TCM and 0.9% in the comparison group). Therefore, we cannot know for sure if the behaviour of students excluded due to their parents' language barrier was different from that of students included.

Filling out questionnaires for seven students may be time-consuming. Therefore, each teacher respondent received a small financial compensation for the time they spent completing the questionnaires. Furthermore, schools in the IY-TCM group received the IY-TCM programme free of charge, whereas schools in the comparison group were offered a modest financial compensation instead of immediate implementation of the programme. This financial compensation may be considered minor compared to the actual cost of receiving the IY-TCM programme. However, it is possible that the financial compensation offered to the comparison schools affected teachers' motivation to complete the questionnaires. Payment may motivate participation, particularly in projects that have difficulties recruiting participants (Stunkel & Grady, 2011); however, this does not necessarily make the data less reliable. The sum of the financial compensation given was in accordance with guidelines of the Norwegian National Research Ethics Committees.

## 4 SUMMARY OF RESULTS IN PAPERS I, II, AND III

### 4.1 Paper I

Aasheim, M., Reedtz, C., Handegård, B. H., Martinussen, M., & Mørch, W.-T. (2018). Evaluation of the Incredible Years Teacher Classroom Management program in a regular Norwegian school setting. *Scandinavian Journal of Educational Research*, 1-14.  
<https://doi.org/10.1080/00313831.2018.1466357>

#### 4.1.1 Objectives

Prevalence rates indicate that 4% of school-aged children in Norway suffer from conduct and hyperkinetic difficulties at the clinical level (Reneflot et al., 2018). Behavioural disorders at the lower primary school level include severe aggressive and non-compliant behaviours beyond the normal range. However, these prevalence rates only consider students who meet diagnostic criteria for disorders; they do not account for students with pre-clinical problems in any of these domains, or those who are at risk for developing problem behaviour. The main objectives of this study were to examine group differences in pre-post changes in students' problem behaviour and social skills after implementation of the IY-TCM programme in a regular school setting at the lower primary school level.

#### 4.1.2 Measures

Pre-post change in students' problem behaviour was measured with the 38-item SESBI-R (Eyberg & Pincus, 1999), which consists of an Intensity and a Problem scale. The Teacher Report Form (TRF) (Achenbach & Rescorla, 2001) (120 item) was also used; it includes subscales for Aggression and Attention Problems, as well as the Academic Performance scale. Pre-post change in student social skills was measured with the 30-item Social Skills Rating System (SSRS) scale (Gresham & Elliott, 1990), which includes the subscales Cooperation, Assertion, and Self-control.

#### 4.1.3 Results

The average age of students in the study was 7.3 years. About 6% were non-Norwegian and received special Norwegian language classes in parallel to their ordinary education. Ten percent of the students received special educational assistance. Six percent of

students in the sample scored at or above the 90th percentile on the SESBI-R ( $> 144$ ), which is equal to the clinical range. For the entire student sample, mean SEBI-R and TRF scores were within the normative range for Norwegian students on problem behaviour (Kirkhaug et al., 2012; Larsson & Drugli, 2011).

At pre-assessment, there were no significant differences in SESBI-R or TRF scores between the IY-TCM and the comparison group. The multilevel analyses revealed small, but significant effects for SESBI-R Intensity ( $d_w = 0.08$ ) and Problem ( $d_w = 0.09$ ) scores at post-intervention, as well as for the TRF Total score ( $d_w = 0.09$ ) and on the TRF subscale Attention Problem ( $d_w = 0.08$ ). Moderating effects of students' gender, grade, and level of problem behaviour (high/low) were examined. A significantly higher treatment effect was found for high-risk students with elevated SESBI-R Intensity scores at pre-assessment compared to others students, with a 9.9 point difference in pre-post change ( $t = -2.13$ ,  $p = 0.03$ ).

At pre-assessment, significant differences between the groups were found for the SSRS subscales Cooperation and Self-control ( $p < 0.05$ ). The multilevel analyses showed significant main effects on the SSRS total score ( $d_w = 0.19$ ) and on the SSRS subscales Cooperation ( $d_w = 0.17$ ) and Self-control ( $d_w = 0.20$ ) at post-assessment. Moderating effects of students' gender, grade, and level of problem behaviour (high/low) were tested. A significant moderating effect of grade was found on SSRS total score, with a significantly larger treatment effect observed in 2<sup>nd</sup> grade compared to 3<sup>rd</sup> grade ( $t = -2.55$ ,  $p = 0.01$ ), while the treatment effects in 1<sup>st</sup> grade compared to 2<sup>nd</sup> and 3<sup>rd</sup> grades were not significant.

## 4.2 Paper II

Aasheim, M., Drugli, M. B., Reedtz, C., Handegård, B.-H., & Martinussen, M. (2018). Change in teacher–student relationships and parent involvement after implementation of the Incredible Years Teacher Classroom Management programme in a regular Norwegian school setting. *British Educational Research Journal*, 44, 1064-1083.

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### 4.2.1 Objectives

Interactions between teachers and students with behaviour difficulties may contain patterns of coercive processes similar to those expressed between parents and children with problem behaviour. Therefore, students at risk for problem behaviour may often develop poor

relationships with teachers and receive less support and instruction and more criticism in the classroom (Drugli, 2013; Mejia & Hoglund, 2016; Silver et al., 2005; Zee & Koomen, 2017). Teachers of students with problem behaviour often develop negative perceptions not only of the students, but also of their parents. Teachers' perception of parents is especially important because it may influence teachers' interactions with parents and their children (Herman & Reinke, 2017; Stormont, Herman, Reinke, David, & Goel, 2013). Hence, the main objectives of this study were to examine group differences in pre-post changes in teacher-student relationships and parent involvement reported by teachers after implementation of the IY-TCM programme in a regular school setting at the lower primary school level.

#### **4.2.2 Measures**

The teacher-student relationship was measured with the 15-item Student-Teacher Relationship Scale, short form, (STRS-SF) (Pianta, 1996), which includes the subscales Closeness (8 item) and Conflict (7 item). Parent involvement was measured with the 20-item Teacher Involvement Questionnaire (INVOLVE-T), which was adapted from the Oregon Social Learning Center and revised by (Webster-Stratton, 1998). The INVOLVE-T includes the subscale Parent Involvement in Education (6 items), Parent Involvement with School/Teacher (7 items), and Teacher Bonding with Parent (7 items). In the analyses, the subscales Parent Involvement in Education and Parent Involvement with School/Teacher were merged into one variable referred to as "parent involvement in school".

#### **4.2.3 Results**

At pre-assessment, there were no significant differences in STRS scores between the IY-TCM and the comparison group. The multilevel analyses showed significant effects on the STRS-SF scale Closeness ( $d_w = 0.22$ ) and Conflict ( $d_w = 0.15$ ) at post-assessment. Moderating effects of students' gender, grade, and level of problem behaviour (high/low) were examined. A significant moderating effect of grade was found for STRS-SF Closeness, where a significantly larger treatment effect was revealed in 2<sup>nd</sup> grade compared to 3<sup>rd</sup> grade ( $t = 2.52, p = 0.01$ ). For high-risk students with elevated SESBI-R Intensity scores at pre-assessment, a significantly higher treatment was found for the subscale STRS-SF Conflict, with a 3.0 point difference in pre-post change when compared to other students ( $t = -3.25, p = 0.001$ ).

At pre-assessment, significant differences in Parent Involvement in School ( $p < 0.05$ ) and Teacher Bonding with Parent ( $p < 0.001$ ) were found between groups. The multilevel analyses showed a moderate significant effect on Parent Involvement in School at post-assessment ( $d_w = 0.40$ ), but the corresponding effect on Teacher Bonding with Parent was not significant. It is worth noting that the pre-post ICC was 0.48 for Parent Involvement in School and 0.47 for Teacher Bonding with Parent, suggesting a high within-teacher dependency for these scales.

### **4.3 Paper III**

Aasheim, M., Fossum, S., Reedtz, C., Handegård, B. H., & Martinussen, M. (2018). Examining the Incredible Years Teacher Classroom Management program in a regular Norwegian school setting: Teacher-reported behaviour management practice, problem behaviour in classroom and school environment, teacher self- and collective efficacy, and classroom climate. Manuscript submitted for publication.

#### **4.3.1 Objectives**

Important relationships have been documented between teachers' behaviour management practices and their self- and collective efficacy perceptions and students' behaviour and learning (Zee & Koomen, 2017). Previous research has suggested that low levels of students' problem behaviour, proactive classroom management practices, and a positive classroom climate may support teachers' emotional wellbeing and their sense of efficacy, which in turn may facilitate students' social-emotional learning in school (Oliver, Wehby, & Reschly, 2011). The main objectives of this study was therefore to examine group differences in pre-post change in teacher-reported behaviour management practices, teacher-reported problem behaviour in the classroom and the school environment, and teacher-reported self- and collective efficacy and classroom climate after implementation of the IY-TCM programme in a regular school setting at the lower primary school level.

#### **4.3.2 Measures**

To assess teachers' behaviour management practices, a 32-item scale based on the Grey and Sime (1989) and Ogden (1998) measurements was applied. Based on exploratory factor analysis, subscales for Behaviour Correction Strategies" (15 items) and Positive



Behaviour Support Strategies (12 items) were revealed and used in the analyses. The scales Problem Behaviour in the Classroom (20 items) and Problem Behaviour in the School Environment (15 items) (Grey & Sime, 1989), were used to assess teacher-reported problem behaviour in the classroom and the school environment. To assess teachers' perception of self-efficacy, the Teachers' Sense of Efficacy Scale (Tschannen-Moran & Hoy, 2001) (16 items) was used. Teachers' perception of collective efficacy was assessed by the Collective Efficacy Scale (Goddard, 2002) (12 items). The 14-item Classroom Environment Scale was applied to assess the general learning climate in class (Moos & Trickett, 1974).

### **4.3.3 Results**

At pre-assessment, except for the Classroom Environment Scale ( $p < 0.05$ ), no further significant differences were found for the different measures in this study between the IY-TCM and the comparison group. The multilevel analyses revealed no statistically significant group differences in pre-post change in teacher-reported use of positive behaviour support and behaviour correction strategies, problem behaviour in the classroom and the school environment, self- and collective efficacy, or classroom climate. Compared to the comparison group, the IY-TCM group developed in a more favourable direction on Problem Behaviour in the Classroom scores ( $d = 0.27$ ,  $p = 0.71$ ), on the subscale Moderate Problem Behaviour in the Classroom ( $d = 0.32$ ,  $p = 0.53$ ), and on Classroom Climate ( $d = 0.23$ ,  $p = 0.80$ ); however, none of these outcome variables were statistically significant at the 0.05 level.

## **5 DISCUSSION & MAIN FINDINGS PAPERS I, II AND III**

The primary aim of the research project described in the present thesis was to evaluate the effectiveness of the IY-TCM programme in Norway. Outcomes for students and teachers were examined after universal implementation of the programme at the lower primary school level in a regular Norwegian school setting. Based on reports from 241 teachers, Paper I presents findings for changes in problem behaviour and social skills for 1518 students. Paper II involves these same students and teachers, and presents findings regarding changes in teacher-student relationships and parent involvement. Paper III includes 302 respondent teachers, and shows findings for changes in teacher-reported behaviour management practices, problem behaviour in the classroom and the school environment, changes in teacher-reported self- and collective efficacy, and classroom climate.

### **5.1 Change in students' problem behaviour and social skills**

To foster children's wellbeing and mental health, it is just as important to nurture their social and behavioural development as their cognitive and academic preparedness. However, many students who enter school lack the behavioural and social competencies necessary to reap the benefits of academic learning (Reinke et al., 2011; Webster-Stratton, 2012). Early-onset problem behaviour, marked by aggressive and oppositional behaviour, are key risk factors for severe problem behaviour and escalating academic problems and may predict subsequent school dropout, depression, antisocial behaviour and violence in adolescence (Moffitt & Caspi, 2001; Odgers et al., 2008). Hence, improving problem behaviour and social skills in school is valuable from a teacher's perspective and for the superior public health agenda in Norway (Arrhenius et al., 2015). The effectiveness of the IY-TCM programme was first examined in terms of its impact on students' problem behaviour and social skills. Changes in the intensity of problem behaviour, whether students' behaviour was a problem for the teacher, and total scores for behaviour difficulties and attention problems, were significantly in favour of the IY-TCM group. This was also true for change in students' social skills, where positive effects for change in students' cooperation and self-control were found in favour of the IY-TCM group. Overall, the programme's effects on change in students' problem behaviour and social skills were small.

The proactive teaching strategies taught in the IY-TCM programme (e.g., use of positive attention, praise, encouragement, and coaching strategies) are meant to provide

teachers with the skills to respond to early, minor problem behaviour in a less negative, more consistent, predictable, and non-harsh manner. The overall approach is that teachers' attention to positive student behaviour should occur far more frequently than attention to negative behaviour. Taken together, these strategies have been found to be effective in changing coercive transactional interactions between parent and child, in preventing minor problem behaviour from developing, and in helping moderate the intensity of problem behaviour (Patterson, 2002; Sameroff, 2009). A moderating analysis showed a significantly larger programme effect on changes in problem behaviour among high-risk students (i.e., those with elevated SESBI-R intensity scores at pre-assessment) than low-risk students (9.9 point pre-post change difference,  $t = -2.13$ ,  $p = 0.03$ ). Based on the findings from the student sample in the present research project, we may assume that teachers' use of proactive teaching strategies had beneficial impact on students' behaviours, and that this use was especially effective among the high-risk students in the sample. Previous studies have also reported that less favourable pre-assessment scores on problem behaviour may predict higher treatment effects (Hutchings et al., 2013; Reinke et al., 2018; Seabra-Santos et al., 2018). Overall, we may assume that high-risk students initially had more room for improvement than low-risk students; and hence, those findings may have been expected. However, disparities in demographic indicators in the present student sample were low. In addition, the number of high-risk students was low. When compared to selective student sample of economically disadvantaged children, the effect of the IY-TCM programme on problem behaviour ( $g = 0.10$ ) (Seabra-Santos et al., 2018) was almost in accordance with that observed in our universal student sample ( $d_w = 0.08$ ).

Changes in students' social skills (e.g., cooperation and self-regulation) were more evident than changes in their problem behaviour. When coercive interactions in dyads become habitual over time, the child learns that negative behaviours "pay off", whereas socially competent behaviours do not. In order to support students' social and emotional development, an important component of the IY-TCM programme is to scaffold students' learning interactions with coaching methods (e.g., descriptive commenting, modelling, prompting, and positive feedback). As a part of the IY-TCM workshops, teachers learn how to directly address desired social skills through coaching, in which teachers may provide descriptive commenting on individually-targeted social and behavioural skills. Teachers in the IY-TCM group reported that their students improved their self-regulation and cooperation more

favourably than did teachers in the comparison group. Social skills, such as self-regulation and cooperating with the teacher and other students, are a prerequisite for academic learning and may also be essential to success later in a student's school career and working life (Durlak et al., 2011; Korpershoek et al., 2016).

It is worth mentioning that the teachers in the IY-TCM group rated their students' cooperation and self-regulation lower than did teachers in the comparison group at pre-assessment. However, at post-assessment, the mean scores on social skills in both groups were almost equal. For these results, a statistical tendency of regression towards the mean may be considered. The slightly elevated pre-assessment scores in the IY-TCM group may indicate that the schools that requested programme implementation (self-recruitment) may have realised they had issues with student behaviour and thus could benefit from the IY-TCM programme. This self-recruitment may have led to a higher level of awareness in teachers in the IY-TCM group when they scored student behaviour at pre-assessment. However, even if significant differences in social skills scores were found between groups at pre-assessment, the sample size in the present study was large, which may have equalised this difference (Barnett, Van Der Pols, & Dobson, 2015).

Changes in students' social skills have also been found to be more evident in other recent evaluations of the IY-TCM programme (Fossum et al., 2017; Reinke et al., 2018; Seabra-Santos et al., 2018). The size of the effects on social skills found in the present, universal student sample are equal and even more favourable to those found in other evaluations of the IY-TCM programme (Reinke et al., 2018; Seabra-Santos et al., 2018). These studies were conducted in student populations with higher demographic diversity ( $d = 0.13$  to  $d = 0.14$ ) (Reinke et al., 2018) and among economically disadvantaged students ( $g = 0.10$  and  $g = 0.21$ ) (Seabra-Santos et al., 2018). The use of proactive strategies, such as praise and positive encouragement, in addition to social-emotional coaching, have also been identified by teachers as the most useful strategies taught in the IY-TCM programme (Murray et al., 2018). These preferences may suggest that teachers found these strategies easier to adopt and put into practice.

In summary, the overall effects on student outcomes in the present student sample may seem modest compared to outcomes found in selected and indicated school settings (Baker-Henningham & Walker, 2018; Hutchings et al., 2013; McGilloway et al., 2010; Seabra-Santos et al., 2018; Webster-Stratton et al., 2008). Furthermore, students lost between pre- and post-

assessment had significantly different scores on SESBI-R Intensity ( $t = -3.36, p = 0.02$ ), SESBI-R Problem ( $t = -2.24, p = 0.03$ ), and TRF Attention ( $t = -3.02, p = 0.003$ ) at pre-assessment. This could result in reduced overall intervention effects, since students who appear to derive the greatest benefit are those with elevated SESBI-R Intensity scores at pre-assessment. As opposed to the significant effect on academic performance found for the high-risk sub-sample in the Kirkhaug et al. (2016) study, significant change in students' academic performance was not found for the entire student sample in this thesis. Our findings are in accordance with previous findings on change academic outcomes after the IY-TCM programme (Murray et al., 2018; Reinke et al., 2018). Overall, given that the IY-TCM programme was implemented as a universal preventive intervention to entire groups of students with varying degrees of risk in regular school settings, the impact we observed on student outcomes suggests that the programme could prevent early-onset problem behaviour from escalating and promote social skills in students.

## **5.2 Change in teacher-students relationships and parent involvement**

Teachers interact with students every day and with parents several times each year. Promoting positive relationships with students and involving parents, are two important components of the IY-TCM programme. Children who enter school with behavioural difficulties due to developmental issues, such as attention problems, hyperactivity, impulsivity, or developmental or language delays may be more easily distracted and find it difficult to listen and follow directions (Webster-Stratton, 2012). Teachers with students that exhibit disruptive behaviour problems in their classroom find that coercive behaviours tend to dominate their interactions with these students, making teaching difficult (Shores et al., 1993). Improving teachers' skills in and awareness of promoting student relationships and parent involvement may foster positive student development more efficiently (Webster-Stratton, 2012). The strategies at the bottom of the IY-TCM Teaching Pyramid (see Figure 1) include teaching tools for how to build positive relationships with students, such as the use of positive involvement and attention, providing encouragement, praise, and special time with the student, as well as promoting positive partnerships with students' parents. These strategies are to be used liberally, as they form the foundation to nurture and scaffold students' learning. A positive teacher-student relationship, characterised by warmth, respect, caring, and positive

affect, may serve as an important protective factor and may scaffold the formation of important behavioural and social skills in children. A positive teacher-student relationship may be especially important for children who exhibit disruptive behaviours in the classroom and are at risk for development of severe problem behaviour (McGrath & Van Bergen, 2015; Sabol & Pianta, 2012). Furthermore, positive contact between teachers and parents has been found to predict positive social development and academic success among children with behaviour problems (Reid, Webster-Stratton, & Hammond, 2007).

In Paper II, teachers gave their perception of relationships with particular students, parents' involvement in their children's education, and teachers' bonding with parents. Teachers in the IY-TCM group rated both their closeness and conflict with students significantly more favourably than did teachers in the comparison group. A moderating analysis showed a significantly larger treatment effect on teacher-student conflict among high-risk students than low-risk students (3.0 points pre-post change difference,  $t = -3.25$ ,  $p = 0.001$ ). Teachers may find it difficult to build positive relationships with students who demand more attention than others, who are disruptive, aggressive, unmotivated, are frequently off-task, and don't listen. This finding is of special importance, as students at risk for development of behaviour problems also have a greater risk of developing a more negative relationship with their teachers (Drugli, Klökner, & Larsson, 2011; Hamre & Pianta, 2001; Mejia & Hoglund, 2016; Zee, de Jong, & Koomen, 2017). Taken together, findings from the moderating analyses in Papers I and II showed that high-risk students in the sample reduced both the intensity of their problem behaviour and their conflicts with teachers to a greater extent than did students who were not at risk of developing problem behaviour.

On average, boys seem to have a higher risk of behavioural maladjustment, conflict, and less close relationships with teachers compared to girls (Baker, 2006; Drugli & Undheim, 2012; Hamre & Pianta, 2001; Silver et al., 2005). In our student sample (84% boys), 6% scored at or above the clinical range on behaviour problems. For this high-risk sub-sample, a positive effect on teacher-student conflict was also found ( $g = -0.65$ ) (Kirkhaug et al., 2016). However, no significant moderating effect for of student gender was found on teacher-student relationship for the entire student sample. Separate analyses by gender and grade on teacher-student conflict showed significant effects for boys ( $d_w = 0.25$ ) and for first graders ( $d_w = 0.29$ ). Boys may begin school with more aggression and less developmental maturity than girls (Baker, 2006). In addition, the teacher-student relationship is mainly formed during

the first months of the school year, and less during the second half of the year when interaction patterns are more firmly established (Roorda et al., 2014).

When children exhibit negative behaviours in school, most contact between teachers and parents is related to these negative behaviours. After some time, parents may feel reluctant to stay in contact with the teacher or may even avoid contact (Webster-Stratton et al., 2008). Teachers may be less comfortable with parents of high-need students because they often interpret students' misbehaviour as a reflection on the parent, and develop a negative perception of the parent as not taking an active role in their child's education (Stormont et al., 2013). In addition, parents with a low level of belief in their ability to help their child are likely to avoid contact with the school and are probably less willing to be actively involved in school or education (Hornby & Lafaele, 2011). Hence, teachers' beliefs about and attitudes toward parents likely affect their interactions with students. Altering these perceptions to be more favourable may be an important component to promote student learning and development (Herman & Reinke, 2017).

Using the INVOLVE-T questionnaire, teachers reported on their perceptions of parent involvement in their child's education, such as engagement, educational goals set by parents, and to what extent parents initiated contact with the teacher. Teachers also reported on their bonding with the parents, their perception of the quality of the parent-teacher relationship, and how often they initiated contact with parents. The results showed that teachers in the IY-TCM group rated their involvement with parents significantly more favourably than did teachers in the comparison group; however, this was not true for teachers' perceptions of their bonding with parents, which was not significant. Given the amount of focus devoted to building empathy and positive partnership both with students and parents in the IY-TCM programme, a tenable hypothesis is that the programme did alter teachers' knowledge of strategies to improve parent involvement and their perceptions of parent involvement, which became more positive. The Herman and Reinke (2017) study recently reported that training teachers in IY-TCM strategies altered their perceptions of parent involvement. Relationships where teachers reported that they did not have a lot of contact with parents, but still perceived their relationship with the parents favourably (e.g., as comfortable and having mutual educational goals), were associated with higher academic achievement and lower behaviour problems in students (Herman & Reinke, 2017; Stormont et al., 2013).

However, some important elements of the INVOLVE-T scores need to be addressed. The pre-to-post mean score for parent involvement changed 1.2 points in the IY-TCM group, and -0.3 points in the comparison group. Given that the Parental Involvement in School scale could theoretically vary from 13 to 65 (the total variation was approximately 5 points), a 1.20-point change may be considered small. The ICC for the INVOLVE-T scores indicated high within-teacher dependency (ICC = 0.48). The degree of teacher-reported parent involvement was almost the same for each student, hence the variability in teacher-reported involvement within classes and between classes were almost the same. The questions in the INVOLVE-T imply daily or weekly contact between teacher and parents, which was not the case for the present student sample. This is because the frequency of school-home contact (e.g., how often teachers invites parents to school meetings and parent conferences) is predefined by guidelines in the national curriculum in Norway. Hence, the low variability in teachers' responses may be due to the restricted range of the INVOLVE-T scores. Therefore, we have to question whether the INVOLVE-T questionnaire is appropriate for use in a Norwegian school context. The reliability of the INVOLVE-T Bonding with Parent scale was also found to be inadequate ( $\alpha = 0.61$ ) (Evers et al., 2013).

Positive effects on teacher-student closeness and conflict and parent involvement in school, in favour of the IY-TCM group, were confirmed in the present study sample. Provided that teachers adopted the IY-TCM strategies to build positive relationships with students and parents, we may assume that the strategies helped them to amend the difficulties they often have in forming positive relationships with students whose behaviour is problematic, as well as their parents. In a recent systematic review of the effectiveness and experiences of the IY-TCM programme, qualitative findings showed that teachers benefited from information about theories behind the positive strategies and knowledge about children's abilities and developmental needs, which resulted in a better understanding of why children act out in challenging ways. Consequently, according to teachers' own reports, they managed to respond more appropriately to children's actions (Nye et al., 2018). Overall, our results may suggest implications for future school practice with regard to improving teacher-student relationships and parent involvement in school.



### **5.3 Change in teachers behaviour management practices, reports of problem behaviour, teacher efficacy and classroom climate**

Teachers are natural implementers who can significantly influence mental health outcomes in children through the use of evidence-based practice (Reinke et al., 2011). Numerous studies have shown that teacher behaviour may be a key mechanism for change in the classroom (Hattie, 2009). According to Evertson and Weinstein (2006), classroom management is a set of “actions teachers take to create an environment that supports and facilitates both academic and social-emotional learning” (Evertson & Weinstein, 2006). Classroom management procedures that structure the classroom environment by focusing on preventive rather than reactive procedures, encourage appropriate behaviour, and reduce the occurrence of inappropriate behaviour in students, have been found to be essential for effective classroom management (Oliver et al., 2011). The main aims in Paper III were to evaluate the IY-TCM programme’s impact on the following teacher-reported variables: use of positive behaviour support and behaviour correction strategies, problem behaviour in the classroom and in the school environment, teacher self- and collective efficacy, and classroom climate. Results on teacher-reported use of positive behaviour support and behaviour correction strategies were not significant. The results suggested a positive trend in the total score of problem behaviour in the classroom ( $d = 0.27$ ), moderate problem behaviour in the classroom ( $d = 0.32$ ), and classroom climate ( $d = 0.23$ ) in favour of the IY-TCM group, but these findings were not significant. This was also true for the total score on problem behaviour in the school environment, the subscales on moderate and severe problem behaviour in the school environment, severe problem behaviour in the classroom, and teacher-reported self- and collective efficacy.

Individual students’ problem behaviour may predict higher levels of teacher-perceived conflict with the student, which, in turn, may result in lower student-specific teacher self-efficacy (Zee et al., 2017). When teachers perceive a conflict with students, they may find it challenging to teach, engage with, and offer emotional support to students, and this may reduce their self-efficacy in relation to these students (Zee et al., 2017). Positive effects on individual students’ problem behaviour and social skills were found in Paper I and on teacher-student closeness and conflict in Paper II. However, these changes did not significantly affect

how teachers perceived their overall self- and collective efficacy, their reports of problem behaviour in the classroom and the school environment, or the overall classroom climate. More specifically, although teachers in the IY-TCM group reported that individual students' problem behaviour changed significantly, this was not true for the whole class or the whole school environment. Scores from the Classroom Environment Scale in Paper III, which captures teacher-student and student-student relationships at the classroom level, were not in accordance with the significant changes in teachers' perceptions of their relationship to individual students in favour of the IY-TCM group that was reported in Paper II. We may question whether the effect of changes in teachers' efficacy and behaviour management practices, classroom climate, and the average level of problem behaviour in the classroom and school environment may require more than 8 to 9 months to develop. According to Fixsen, Naoom, Blase, Friedman, and Wallace (2005), the effects of evidence-based programmes may require 2 to 4 years to fully establish. Longer and more intense interventions implemented over time also appear to be more effective than brief interventions (Weare & Nind, 2011). Hence, to produce more convincing outcomes for change in teacher behaviour, the IY-TCM programme may need to be implemented more consistently and over a longer period of time than that provided in the present research project.

As mentioned in Paper III, the power calculations for this study were originally based on the number of randomised students included, not the number of teachers. Power calculations for a two-stage sample during study planning estimated that the number of teachers had to be around 100-200 in each group. Paper III included 99 and 109 teachers in the IY-TCM group and comparison group, respectively. It is possible that these numbers constitute a sample of the overall teacher population that is too restricted (restricted range of data). Restricting the range of data may cause less variation in the outcome variables, as the overall proportion of variation is reduced (Bland & Altman, 2011). Furthermore, more than 90% of included teachers in the present sample were educated as teachers and had an average of more than 12 years of work experience. This may explain why the mean scores on several of the teacher outcome variables, such as teachers' classroom management strategies and self- and collective efficacy, seemed to be high at pre-assessment, and seemed higher than those reported in other school-based intervention studies (Sørli & Ogden, 2015). A ceiling effect may have occurred due to a measurement limitation that occurs when the highest possible score or close to the highest score on a test or measurement instrument is reached, thereby

decreasing the likelihood that the instrument has accurately measured the intended domain (Taylor, 2010). Therefore, when the upper limits of a measure are reached, discriminating between the behaviours of teachers within the upper range is difficult. In the Sørli, Ogden, and Olseth (2016) study, mean baseline scores for collective efficacy ranged between 55.0 and 57.8, whereas mean scores at pre-assessment in the present study were 60.2 and 60.4 in the IY-TCM group and the comparison group, respectively. Overall mean scores on collective efficacy at pre-assessment are illustrated in Figure 4.

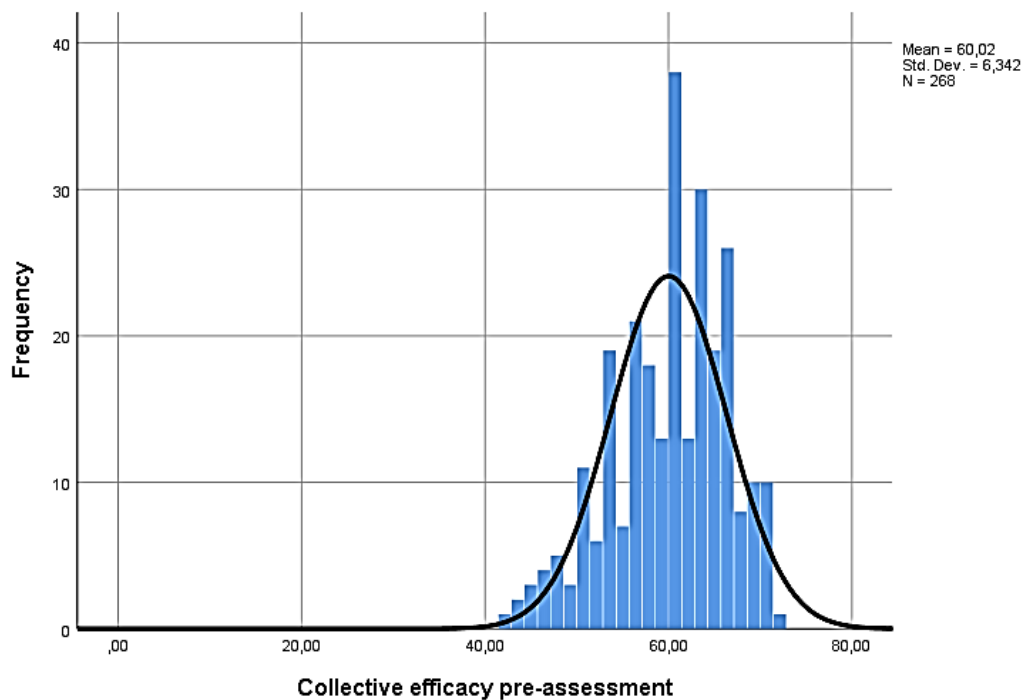


Figure 4. Mean scores on collective efficacy at pre-assessment

Future evaluations of teacher behaviour after the IY-TCM programme may be done using other measures that may demonstrate a larger degree of differentiation, e.g., measurements that target better teacher behaviour (discrimination for high performers) and that are more sensitive to change or growth induced by the IY-TCM programme.

School-based interventions that effectively support and facilitate behavioural and social-emotional student outcomes in primary education generally include improvements in teachers' classroom management practices, teacher-student relationships, and student behaviour and social-emotional development (Korpershoek et al., 2016). Based on findings in

Papers I and II, the IY-TCM programme seems like a promising option to improve teacher-student-parent relationships and student social skills at the individual level. However, changes in teachers' efficacy and classroom management practices, classroom climate, and problem behaviour at the classroom level and in the school environment were not confirmed in the present study. This may be explained by the fact that teachers were more experienced and more highly educated than teachers in previous studies, which showed more evident changes in teacher behaviour (Baker-Henningham & Walker, 2018; Baker-Henningham, Walker, Powell, & Gardner, 2009; Leckey et al., 2016). This suggests that contexts in which teachers have lower baseline levels of professional training present better opportunities for growth (Nye et al., 2018). The teacher reported changes for problem behaviour in classroom and classroom climate may suggest a trend favouring the IY-TCM group in compare to the comparison group. So far, the universal implementation of the IY-TCM programme over an 8-to-9-month period may be insufficient to change teachers' efficacy and classroom management practices, classroom climate, and problem behaviour in the classroom and the school environment.

### **5.3.1 Is the effect of social skills mediated by changes in teacher-student relationships**

As the IY-TCM programme targets teachers rather than students, the logical assumption may be that the changes in student outcomes (e.g., students' social skills) found in Paper I arise from the changes in teacher behaviour (e.g., teacher-student relationship) reported in Paper II. Therefore, we tested whether the effect on students' social skills was mediated by the change in teacher-student relationships.

The IY-TCM programme components were provided to teachers successively. The programme component "how to build a positive relationship to students" preceded the programme component "about coaching student's social skills". The idea of mediation is that some of the effect of the predictor variable, the independent variable (IV), is transmitted to the dependent variable (DV) through the mediating variable (MV). In Figure 5, the arrows show the direction of the relationship between IV and MV, MV and DV, and IV and DV. The relationship between IV and DV that is not through MV is the direct effect of IV on DV. Assuming a mediation relation of IV to MV to DV, we suggested that our IV (the IY-TCM group variable) was related to the MV (change in teacher-student relationship), which in turn

was related to the DV (change in students' social skills) (Figure 5) (Bauer, Preacher, & Gil, 2006; MacKinnon, 2008).

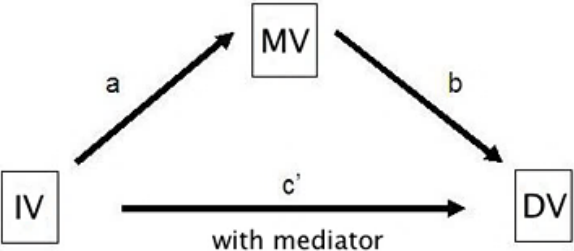


Figure 5. A mediation relation

The data were hierarchically organised in the present research project, with students as the unit (level 1) nested within teachers (level 2). According to Kenny, Korchmaros, and Bolger (2003), an upper-level mediation exists when the initial causal variable whose effect is mediated is an upper-level variable. Further, if the antecedent variable is measured at level 2, while the mediator and outcome are at level 1, the level 2 predictor influences a level 1 mediator, which then affects a level 1 outcome (2 → 1 → 1) (Zhang, Zyphur, & Preacher, 2009) (see Figure 6).

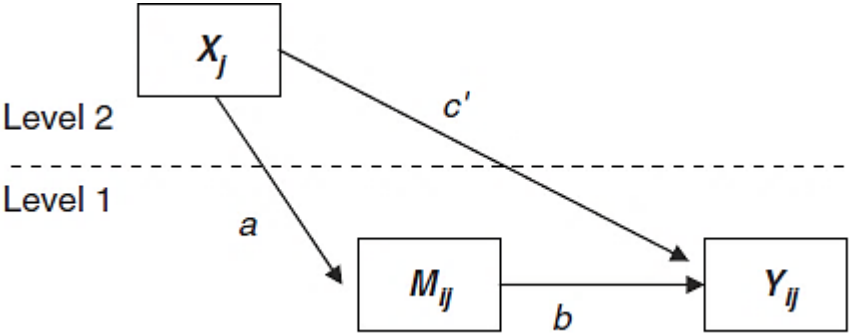


Figure 6. The 2 – 1 – 1 model

In Figure 6, the Y is the DV, X is the IV, and M is the mediating variable or mediator. In the present study, we applied a case in which X was assessed at level 2 and M and Y were assessed at level 1 in a 2-1-1 design (Zhang et al., 2009). Further, we assumed that the effect of the IY-TCM programme (level 2 predictor) was mediated through the change in teacher-

student relationships (STRS Closeness and Conflict) (level 1 mediator) to the change in students' social skills (SSRS total scores) (level 1 outcome). The change in the mediator must be shown to occur before the change in the dependent variable in order to claim true temporal precedence (Gaynor, 2017; Kendall et al., 2016). The assessment of change in the STRS Closeness and Conflict scores (the mediators) coincided with the assessment of change in the SSRS total scores in the present study; hence, temporal precedence of the mediators was not established.

In the upper-level meditation model for 2-1-1 data, a *multilevel structural equation modelling* (MSEM) framework for testing multilevel mediation is recommended (Preacher, Zyphur, & Zhang, 2010; Zhang et al., 2009). Further, the indirect effect of the IY-TCM programme (X) on students' social skills (Y) through the teacher-student relationship (M) may function only through the between-group variance in M and Y. The parameter  $c'$  in Figure 6 relates X to Y adjusting for the effect mediator (a partial effect). The parameter  $b$  relates the mediator to Y adjusted for the effect of X, and the parameter  $a$  relating X to the mediator. Prior to the meditation analyses, the effect  $a$  (STRS Closeness  $t = 2.38, p < 0.05$ , Conflict  $t = 2.38, p < 0.05$ ) and the effect  $c$  (SSRS Total  $t = 2.80, p < 0.01$ ) were confirmed. The product of the  $a$  and  $b$  parameters,  $ab$ , is the mediated effect. The rationale behind the  $ab$  mediation quantity is that mediation depends on the extent to which the independent variable affects the mediator ( $a$ ) and the extent to which the mediator affects the dependent variable ( $b$ ). The  $ab$  quantity reflects how much a 1-unit change in X (the IY-TCM program) affects Y (SSRS Total) indirectly through M (STRS Closeness or Conflict) (MacKinnon, 2008). The  $ab$  estimates a unique mediation effect for a mediator (Zhang et al., 2009).

Using the MSEM framework, the product of the coefficients  $ab$ , as the mediation effect of STRS Closeness and Conflict (as multiple mediators) on the outcome variable SSRS total score, was tested in the mediation analysis. Results for these mediation analyses were not significant; the  $z$ -score for STRS Closeness was 1.83,  $p > 0.05$  and 1.59,  $p > 0.05$  for STRS Conflict. Given the mediation effect  $ab$  represented by the  $z$ -scores above, the assumption that the change in students' social skills was mediated by the change in teacher-student relationships was not confirmed in this thesis. Once again, as the temporal precedence of the mediators was not established in this research project, our ability to draw firm conclusions from this mediation analysis was also limited.

## **5.4 Methodological consideration**

The findings presented in this thesis must be evaluated with the methodological challenges and practical decisions of a real-world context in mind. The study was conducted as an effectiveness study using a quasi-experimental, pre-post comparison design under naturalistic and real-life conditions. Attaining acceptable validity can be a major challenge when non-randomised designs are used in the evaluation of ordinary settings such as schools. Several efforts can be made to strengthen the validity by adding elements that reduce the most likely and severe threats to internal validity. The present study has several strengths: it was conducted as an effectiveness study under naturalistic, real-life conditions, the sample size of was quite large, and the power to detect relatively small effects was sufficient in the student sample.

### **5.4.1 The study design and sampling strategy**

The randomised controlled trial is generally accepted as the best design to obtain unbiased effect estimates and to secure a high degree of internal validity (Shadish, Cook, & Campbell, 2002). In a randomised controlled trial with a successful randomisation procedure, the groups of participants are similar at pre-assessment and any outcome differences at post-assessment can be attributed to the intervention and not to initial group differences or other artefacts. Random assignment of schools is possible, and should be preferred to test the IY-TCM programme in an optimal way. However, random assignment to the groups in the present study was difficult due to the implementation policy of IY Norway and the Norwegian Directorate of Health. In the present study, the IY-TCM programme was implemented as a full-scale preventive intervention at the lower primary school level, so the relevant allocating units were schools rather than classes or students.

Recruitment of intervention schools was carried out in municipalities that had already implemented IY, and thus already had IY group leaders who could be trained in the TCM programme, whereas the recruitment of comparison schools was carried out in municipalities that had not implemented IY. This was done to minimise threats to validity such as diffusion, to avoid the inclusion of teachers from municipalities that had already learned about and adopted components of other IY interventions (e.g., the IY Parenting programme) in the comparison group. IY Norway contacted the educational-psychological service in strategically selected municipalities without IY implementation, and asked for

permission to carefully inform and invite schools in these municipalities to participate in the study as part of the comparison group. In contrast, schools in the IY-TCM group sent a request about programme implementation (self-recruitment) and may have realised they had issues in relation to teachers' classroom management practices and/or student behaviour and could benefit from implementing the IY-TCM programme. This may have led to slightly elevated pre-assessment scores on student behaviour in the IY-TCM group than in the comparison group. Due to the sampling strategy, we cannot rule out the possibility that selection bias may have occurred during recruitment. Significant group differences were identified for only a few observed variables at pre-assessment (SSRS Cooperation and Self-Control in Paper I, INVOLVE-T in Paper II, and Classroom Climate in Paper III). Although we adopted several measures to ensure that included schools were representative of all Norwegian schools, there may be undetected group differences on non-observed variables. To reduce threats to validity stemming from possible selection bias, the recruitment of comparison schools was carried out in strategically selected municipalities to match to the schools in the IY-TCM group. Twelve of 18 counties and 17 different municipalities in Norway were represented in the study; hence the geographical distribution of schools was acceptable (see Figure 3). The number of large schools was higher in the IY-TCM group and the number of small schools was higher in the comparison group, however, the number of high-risk students in each group were almost the same, 6.1% ( $n = 45$ ) in the IY-TCM group and 5.8% ( $n = 38$ ) in the comparison group. However, producing changes in large schools may seem more difficult than in small to medium schools, because "turning a large school around" is more challenging (Sørli, Ogden, & Olseth, 2015). To make the two groups as similar as possible, school size and the number of students in each class was controlled for in the multilevel analyses, which may lower and threats to validity stemming from selection bias.

Alternative designs may have been a cluster-randomised trial (CRT) or a step-wedge trial (SWT). In a CRT, individuals are randomised in a group, and the group as a whole is randomised, not the individuals. This design is often used when individual randomisation is not possible. CRTs are complex to design, require more participants to obtain equivalent statistical power (the number of clusters and cluster size), and may require more complex analysis. Using a CRT may also be an effective way to avoid contamination, and this is one of the most common reasons for adopting this design (Hemming, Eldridge, Forbes, Weijer, &



Taljaard, 2017). However, applying a CRT in a full-scale implementation at the lower primary school level in several municipalities in Norway would have been problematic. Delivering the IY-TCM programme simultaneously to teachers in six, full-day workshops over an 8-9-month period required extensive preparation and planning. Municipalities and schools were informed about the predefined criteria for programme implementation and study inclusion before they sent an application for programme implementation. For ethical reasons, it would have been problematic to randomise the schools to clusters after they had done extensive preparation and planning to receive the programme.

A SWT design is a type of CRT, in which clusters are randomised to receive an intervention at different start times, but all clusters eventually receive it (Prost et al., 2015). One may start by identifying possible clusters and measuring baseline variables for all at time (T)1. Thereafter, the intervention is administered to randomly selected clusters at T2. At T3, another cluster is randomly selected and the intervention administered, and so on until all the clusters have received the intervention. The challenge of a SWT is that it requires extensive planning and coordination to achieve phased intervention implementation, such as organising intervention activities according to a randomised sequence and estimating time lags in implementation and effects during the trial period (Prost et al., 2015). The total burden was already high for the participating teachers and schools in the present study. An advantage of the SWT design is that control groups are certain to receive the intervention eventually. Having a temporary control group or delaying the intervention to the control group may seem more acceptable to participants than completely denying the intervention to the control group (Prost et al., 2015). Using a SWT in which the IY-TCM is rolled out to schools over multiple years may give opportunities to explore long-term outcomes, in addition to whole-school implementation and dosage effects. For the present research project, the use of a SWT would have placed an excessive burden on participating teachers and schools, and was therefore rejected. During the planning phase of the study, the implementation policy of IY Norway and the Directorate of Health in Norway was already in place, hence a quasi-experimental pre-post comparison group design was considered to be the most appropriate.

#### **5.4.2 The multilevel approach**

The structure in the present study sample was hierarchical (the first level was the students and the second level was the teachers in Papers I and II, and the first level was the

teachers and the second level was the schools in Paper III), therefore the assumption of independence was violated. For instance, students in the same class tend to be similar to each other because of the common experiences they share by being in the same class. The average correlation (expressed as the ICC) between variables among students from the same class tend to be different than the average correlation between variables among students from different classes (Hox, 2010). The general idea of multilevel analysis is that this hierarchy in data is taken into account in the analysis, or it takes into account the dependency of the observations (Twisk, 2006). For the present study, ICCs were calculated mainly on change scores to estimate the degree of dependency within teachers, who were the object of clustering in Papers I and II, and within schools, which were the object of clustering in Paper III. ICCs for the student outcomes in Paper I were based on change scores and varied from 0.06 to 0.40. In Paper II, the ICC calculations for the STRS scores varied from 0.19 to 0.36 based on change scores, whereas ICC calculations for INVOLVE-T scores were large: 0.48 for Parent Involvement in School and 0.47 for Teacher Bonding with Parent. For teacher-reported outcomes in Paper III, ICC calculations were small (ICC <0.22).

Change scores were used to test for group differences from pre- to post-assessment. The change score analyses focused on improvements from pre- to post- assessment for whole groups, and addressed group differences, comparing improvements between the IY-TCM group and the comparison group. The gain-score analysis answers the question of whether the two groups differed in terms of their mean change, i.e., whether we can reject the null hypothesis that the groups improved at the same rate (Fitzmaurice, Laird, & Ware, 2004). This approach is preferred before analysis of covariance. Analysis of covariance tests differences in covariate-adjusted scores and test whether the null hypothesis, those individuals who shared the same pre- assessment score improved at the same rate. This is only possible if individuals have the same baseline score, which may be the case in a randomised design (Fitzmaurice et al., 2004). In a non-equivalent group design, in which randomisation of groups is not possible and baseline differences between groups exists, as they do in the present study, the use of change scores have been strongly emphasised (Fitzmaurice et al., 2004; Oakes & Feldman, 2001). Because we used change score analyses, we were also able to use multiple imputation for the analyses to deal with missing data in Papers I and II. Multiple imputation under the assumption that data are missing at random is an appropriate and flexible way of handling missing data and was done to ensure that the pre-post-assessment

analyses reflected the entire student population in Papers I and II (Stuart et al., 2009). Using multiple imputation in Paper III was also considered, but the conclusion was that this approach would not change the results from the original data.

For Papers I and II, the effect sizes ( $d_w$ ) were computed as standardised group differences in pre-post mean change using the pooled within-cluster sample standard deviation (Hedges, 2007). For Paper III, the effect sizes ( $d$ ) were calculated according to Feingold (2013) recommendations, where the standardised mean difference was calculated based on the unstandardised mean difference (regression coefficient) divided by the pooled, within-group SD of the raw outcome scores at pre-assessment. As pointed out by Greenberg and Abenavoli (2017), the primary use of the standardised mean effect size to evaluate universal interventions may lead to undervaluing the importance of the universal approach, because standardised metrics of impact like Cohen's  $d$  are quite sensitive to the base rate of a given phenomenon in the population. This may be problematic, as the base rate of things like students' behaviour difficulties vary across high-risk populations targeted in selective and indicated interventions and universal populations targeted in preventive interventions. Hence, standardised mean effect size may be a poor metric for assessing outcomes of universal preventive interventions where a large percentage of the population has few baseline symptoms and is thus unlikely to change, at least in the short term (Durlak et al., 2011; Greenberg & Abenavoli, 2017).

### **5.4.3 Fidelity and implementation**

Teacher- and group-leader reported fidelity information was given through different measures (e.g., the IY Workshop Evaluation form, the Teacher Workshop Checklist, and the Teacher Satisfaction Questionnaire) (Webster-Stratton, 2018). As the funder of this study (the Norwegian Directorate of Health) wanted boundaries between the implementation of the programme and the research project, the implementation process was mainly in the hands of the local municipalities involved. Hence, access to this fidelity information was problematic. Mainly as a consequence of this, no formal or objective information on programme fidelity, dosage, or quality of implementation was included in the present thesis.

An organisation's overall readiness for the implementation of any programme may be influenced by several factors, such as the need and readiness for change, the capacity to affect change, and the commitment to or engagement in the change process (Greenberg,

Domitrovich, Graczyk, & Zins, 2005). An assessment of readiness for implementation may predict the quality of programme implementation. An assessment of the student population and its needs, and the fit between what students need and what an intervention offers, are of significance. Determining whether the municipality and the school infrastructure are sufficient to handle the needs of the intervention, such as the availability of needed personnel and material resources, budgeting issues, and feasibility are of importance (Greenberg et al., 2005). Hence, as a part of the pre-planning of programme implementation, and in order to assess the organisation's overall readiness for implementation, leaders in participating municipalities and schools had to answer an Agency Readiness Questionnaire (62 questions). However, an organisation's capacity may be affected by important "implementation drivers" related to programme fidelity, dosage, and quality of implementation (Durlak & DuPre, 2008). This capacity may have varied between different municipalities and schools, and thus we have to question whether particular "implementation drivers" may have been influenced in the present study.

In the systematic review by Nye et al. (2018), questions about future recommendations for the implementation of the IY-TCM programme, as well as barriers to implementation and difficulties with the programme, were investigated. Qualitative findings (teachers' and group leaders' reports) showed that there was greater variability within and across studies on whether participants experienced certain aspects of the programme as negative. A model in which the critiques of the implementation process are presented using a cyclical process of recruitment, delivery/content, outcomes, and scale-up, illustrate the difficulty of balancing competing aspects of programme delivery (see Figure 7) (Nye et al., 2018, p. 23).

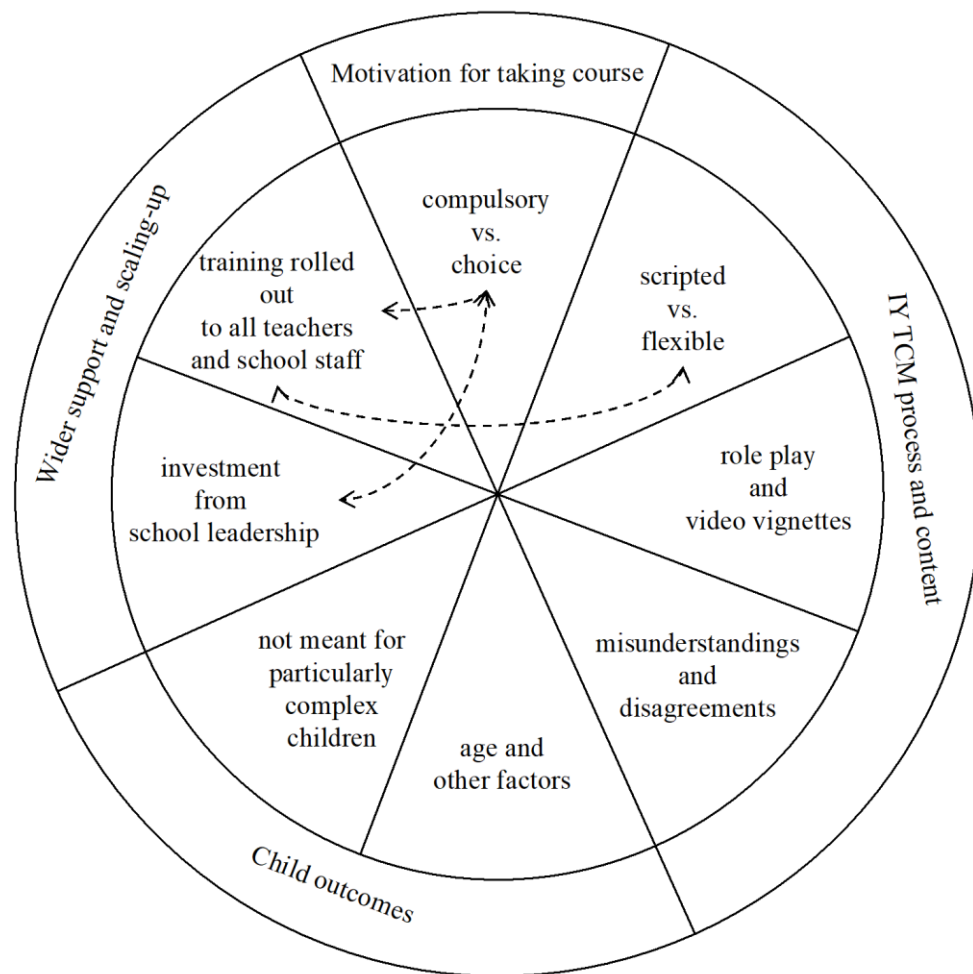


Figure 7. Qualitative meta-synthesis of experienced critiques of the IY-TCM programme<sup>1</sup>

*Motivation* – Motivation for participating in the IY-TCM programme was highlighted as an important factor with regard to whether teachers chose to participate, contrasted against compulsory participation (Baker-Henningham et al., 2012; Kennedy, 2016; Leckey et al., 2016; Marlow et al., 2015). In the present research project, we considered that teachers chose to participate in the IY-TCM training. This was because staff approval had to be at least 80% before schools were offered programme implementation. If 20% of the teachers did not approve, they may have been reluctant to attend the training, but felt obliged, whereas

<sup>1</sup> Adopted from the Nye et al. (2018).

teachers who approved participation (felt that they had a choice) may have been more open-minded to the content of the programme and more engaged in the training. We do not know for sure how programme approval was obtained from school staff.

*The IY-TCM process and content* – Previous research has addressed the main critiques of process related to the IY-TCM programme’s manualised nature and specific learning techniques (Baker-Henningham et al., 2012). An intervention’s process and content refer to the internal dynamics and operation of the quality of programme delivery (Greenberg et al., 2005). The IY-TCM programme has a step-by-step approach, by which specific learning techniques, such as the use of role-play, film-vignettes, group discussions, and self-reflection forms and checklists. The learning techniques that have been associated with the most challenges are the use of role-play and film-vignettes (Nye et al., 2018). Factors that may have moderated these aspects include the group leader’s skills or level of experience and the teachers’ level of education and experience. Before the group leaders could carry out the training for teachers in this study, they had to deliver the training programme at least once or twice (or in one or two schools, depending on school size) per year on average. During the group leader’s regular supervision and consultation by IY mentors and trainers, typical agendas contained a fixed set of topics, such as how to get the most out of the programme’s film-vignettes, how to direct an effective role-play, as well as other issues related to programme delivery. Therefore, we may assume that the group leaders in this research project had adequate skills to carry out the programme, and adequate knowledge about the programme's theoretical basis and its contribution to the educational setting, and hence, that they were committed to the programme's goals. As mention in Paper III, included teachers also had high levels of professional training and experience. A high level of professional training combined with different cultural beliefs and values may have influenced the teachers’ susceptibility to and acceptability of the programme, which may have resulted in disagreement with strategies advocated by the programme. The programme's core components are clearly set out in the programme manual, and programme delivery itself is guided by a set of principles. Using these principles as a basis may have helped keep the programme more flexible and easier to adapt to different cultural beliefs and values, variations in teacher skill levels, and student development (Hutchings et al., 2013).

*Child outcomes* – The IY-TCM programme was originally designed to address high-risk groups of students with severe problem behaviours in schools. The benefits of the

IY-TCM programme for other groups of students, such as older students or identified subgroups of students with greater need, have been questioned (Ford et al., 2018; McGilloway et al., 2010; Nye et al., 2018). In this research project, the IY-TCM programme was implemented as a full-scale preventive intervention at the lower primary school level targeting the entire student population aged 6 to 8 years. Main outcomes for this entire student population, rather than outcomes for subgroups of students, were therefore of primary interest. In the present student sample, about 6% of students scored at or above the clinical range on the SESBI-R Intensity scale. These students were included in the overall analyses conducted on the entire student population. However, moderating analyses suggested that the IY-TCM programme had a larger programme effect on problem behaviour and teacher-student conflict for students with elevated SESBI-R Intensity scores at pre-assessment. When the sub-sample of high-risk students from the student sample was evaluated isolated, results showed that the IY-TCM programme implemented as universal preventive intervention may not be sufficient to change behaviour difficulties in this student population (Kirkhaug et al., 2016). These findings suggest that when the IY-TCM programme is given as a universal preventive intervention, high-risk students may require more comprehensive and tailored interventions in addition to the IY-TCM programme.

*Wider support and scaling-up* – As a part of the critiques against delivery of the IY-TCM programme, stakeholders expressed the need for wider support of training and scaling-up the IY TCM implementation. (Nye et al., 2018). In this research project, the IY-TCM programme was offered to all first to third grade teachers and students simultaneously, instead of to a limited group of teachers, classes, or students. This approach provided an opportunity to influence all students effectively, including students initially most at risk for developing problem behaviour. Previous research have shown that a further comprehensive school-wide implementation from first to seventh grade may produce more convincing outcomes with regard to changes in problem behaviours in the entire school environment and in teacher's behaviour management practices (Sørli & Ogden, 2015; Sørli et al., 2015). In the present research project, the IY group leaders were offered regular supervision and IY consultations by IY mentors during programme delivery. The facilitation on supporting the training and scaling-up the program, are implementation aspects that to some extent was performed in the present research project.

*Investment from leadership* – Investment from the leadership in the educational-psychological service may refer to their willingness to give IY-TCM group leaders enough time to offer in-class consultation (i.e. to coach teachers between workshops), and participate in full-day supervisions/consultations (about 6 to 8 times a year) during the research period. From the school leadership level, investment from leadership may also refer to the extent of administrative support (e.g. facilitation of the process) given to teachers to receive in-class consultation and coaching between workshops, as well as enough time do their home assignments and to put into practise new strategies in classroom. The extent of investment at the leadership level (at both the municipality- and school level) may be an important implementation aspect that may moderate the programme's effectiveness. However, this aspect have not been addressed in previous evaluations of the IY-TCM programme (Nye et al., 2018), and was neither addressed in the present research project.

The quality of implementation is essentially the degree to which an intervention is conducted as it was originally intended. Implementation data may be crucial to interpreting outcomes that strengthen the conclusions of the intervention (Sørliie & Ogden, 2015; Sørliie et al., 2015). In the absence of implementation information, it is difficult to know precisely what took place during an intervention trial, and one may incorrectly conclude that a programme is ineffective when, in fact, poor outcomes may be the result of service delivery shortcomings, not shortcomings of the programme itself (Greenberg et al., 2005). Implementation information may have been useful to explain variations in outcomes in the present research project, e.g., why some students and teachers improved after exposure to the IY-TCM programme and others did not. Although no formal or objective information on programme fidelity and implementation quality was collected in the present research project, IY mentors and group leaders did not report any serious deviations in the way the programme was delivered. Problems detected during the time of the study were rather insignificant; they were easily solved and followed up on later.



## 5.5 Future directions

When universal preventive interventions are delivered to entire populations with varying degrees of risk (e.g., few children in a whole population have, or are at-risk for, a disorder), it is important to assess potential outcomes over a period of time sufficient for a preventive effect to occur (Greenberg & Abenavoli, 2017). Furthermore, behavioural changes realised through preventive classroom interventions in regular school settings may take longer to develop than those achieved in disadvantageous- or at-risk settings. According to Greenberg and Abenavoli (2017), treatment or promotion effects, such as a reduction in individual students' problem behaviour and improved social skills, might be evident immediately following a universal intervention. However, universal preventive effects at the classroom level and in the school environment may take longer to consolidate and emerge. Students in the IY-TCM group were exposed to IY-TCM strategies for a relatively short duration. In order to produce more convincing outcomes both in student and teacher behaviours, the IY-TCM programme given as a universal preventive intervention may need to be implemented more consistently over a longer period of time. Our understanding of how sustainable post-intervention outcomes of the IY-TCM programme may or may not be is limited. Significant improvement in children's mental health was reported by teachers 9 months after the IY-TCM programme in a recent study; however, this finding did not persist at 18 or 30 months (Ford et al., 2018). To capture the impact of the IY-TCM programme more fully, knowledge on how to strengthen programme maintenance and sustainability is needed. It is critical that future research use multiple assessment points within a long-term follow-up study.

There has been convincing support for changes in children's problem behaviours at school, as well as in teachers' negative behaviours towards children after the IY-TCM programme has been implemented in combination with other IY interventions, such as the IY Parent and Child programmes (Webster-Stratton et al., 2001, 2004; Webster-Stratton et al., 2008). High-risk students (i.e., those who are at risk of, or already exhibit problem behaviour) may require other interventions in addition to the IY-TCM programme given as a universal prevention intervention (Kirkhaug et al., 2016). Dysfunctional patterns of family interaction often translate into problems at school, which may underline the need to target students' problem behaviour not only at school but also in home settings. Parent training has been found to be a powerful tool to reduce risk factors related to the development of childhood

social-emotional and behaviour problems, to change harsh parenting and child behaviour problems, and to enhance positive parenting (Leijten et al., 2018). When evaluating the IY Attentive Parenting Program implemented as a universal preventive intervention, a significant reduction in harsh parenting and an increase in positive parenting were found (Reedtz, Handegård, & Mørch, 2011). The IY-TCM programme implemented in combination with the IY Attentive Parenting programme, and the IY-TCM programme implemented in combination with the IY Dina Dinosaur Social Skills and the Problem Solving Curriculum to children, have been carried out in regular kindergarten and school settings in Norway. We recommend that the evaluation of these combinations of IY programmes in Norway be included in future research on the IY-TCM programme.

Teachers in our IY-TCM group were the primary implementers of the IY-TCM programme; they were responsible for implementing the programme with fidelity and for answering the questionnaires. Teachers were the only informants, thus a positive response bias or an allegiance effect may have occurred. However, teachers' assessments are important in the context of school-based interventions, and they provide a valuable normative perspective both on student and teacher behaviours. Due to the extended periods of time they spend with students in different situations, teachers are considered reliable informants on student behaviour (Major, Seabra-Santos, & Martin, 2015; Ogden, 2003; Reinke et al., 2018). Using a multi-informant approach may reduce the risk of mono-informant bias. Classroom observations, such as the Teacher–Pupil Observational Tool (Martin et al., 2010) and the standardised observational instrument, the Classroom Assessment Scoring System (Pianta, La Paro, & Hamre, 2008), have been successfully used in other trials of the IY-TCM programme (Leckey et al., 2016; Murray et al., 2018). In addition to the use of quantitative measurements during programme implementation, using of classroom observations (e.g., of teacher-student interactions) would obviously have improved the findings and the robustness of this research. Integrating quantitative and qualitative knowledge and experience in future research (Nye et al., 2018) is strongly recommended.

Previous research has shown that fidelity and implementation quality may moderate the effects of school-based interventions (Sørliie & Ogden, 2015; Sørliie et al., 2015). Fidelity and implementation information may refer to how much of the original programme was delivered, and how well different programme components were conducted (Durlak & DuPre, 2008). This refers to knowledge about the quality of the delivery of the IY-TCM training to

teachers (the group leader level), and how thoroughly teachers managed to apply IY-TCM strategies in their classrooms. At the classroom level, the use of in-class consultation and coaching between workshops is recommended as part of the implementation of the IY-TCM programme in Norway. Guidelines on frequency and content for this implementation component are specified, possible additive benefits of this implementation component should be examined in future research. Furthermore, the extent to which the leadership in the educational-psychological service and the school leadership invested in and supported the delivery of the IY-TCM programme may have been an important moderator that influenced the programme delivery. This is an implementation aspect that should be examined in future research.

## 6 CONCLUSION

The main aim of the present thesis was to evaluate the effectiveness of the IY-TCM programme in Norway with regard to changing students' problem behaviour and social skills. The IY-TCM programme was offered as a preventive intervention to all teachers at the lower primary school level, targeting all students aged 6 to 8 years. Around 7% of pre-school and school-aged children showed symptoms consistent with a mental health disorder, including children with behaviour difficulties (Reneflot et al., 2018). In school setting, a large number of children can be reached at the same time, and teachers are important and natural implementers who have the potential to influence mental health outcomes in students. School readiness, may be conceptualised as three components including emotional self-regulation, social competence, and parent/school involvement, as well as absence of problem behaviours, and these factors play a key role in children's future interpersonal adjustment and academic success (Webster-Stratton et al., 2008). Through the use of evidence-based behavioural and social-emotional practices in the classroom, teachers get the chance to alter early-onset problem behaviour and social skills in students. The findings in this thesis give evidence that the IY-TCM programme implemented as a universal preventive intervention in regular school settings may be able to alter student behaviour for the better, also students who were initially identified by the teacher as high-risk for behaviour problems. Overall, the effects were in the small range. However, small effects from universal interventions are common and expected (Greenberg & Abenavoli, 2017). The observed changes in problem behaviour and social skills may be considered modest. When considering these findings combined with the effects on teacher-student-parent relationships, the overall findings may be considered promising. The benefits to each individual on average may considered low. However, if one can shift the overall mean of problem behaviour in the entire student population, then the percentage of students requiring the high-risk strategy may also decline in the long run. Considering the findings in a population-focused approach, the cumulative consequences for the population as a whole, with regard to promoting mental health and positive educational outcomes, might be of significance (Rose, 1985). The population influence of universal school-based interventions may be differentiated across subgroups, with the same intervention acting to promote health for some students, while preventing deterioration or actively treating others. Hence, although the effects found for the entire student sample at the lower primary school level in the present research project were small, this does not necessarily demonstrate a lack

of programme effectiveness (Ford et al., 2018; Greenberg & Abenavoli, 2017). Findings in this thesis add new knowledge on the effectiveness of the IY-TCM programme when offered as a universal preventive intervention. We may conclude that the IY-TCM programme has the potential to improve behaviours in most students, and as well, as prevent problem behaviours from developing in students who are at risk for such problems within regular school settings.

## 7 References

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## Paper 1

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## Paper 2

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## **Paper 3**

Aasheim, M., Fossum, S., Reedtz, C., Handegård, B. H., & Martinussen, M. (2018). Examining the Incredible Years Teacher Classroom Management program in a regular Norwegian school setting: Teacher-reported behaviour management practice, problem behaviour in classroom and school environment, teacher self- and collective efficacy, and classroom climate. Manuscript submitted for publication.



## Appendix

## INVITASJON TIL Å DELTA I EVALUERINGSSTUDIEN AV DE UTROLIGE ÅRENES SKOLE- OG BARNEHAGEPROGRAM

De Utrolige Årene (DUÅ) ønsker med dette å invitere din skole/barnehage til å delta i Evalueringsstudien av DUÅ Skole- og barnehageprogram. I dette brevet gir vi informasjon om programmet, etablering av programmet ved skolen/barnehagen og hva deltakelse i Evalueringsstudien innebærer. DUÅ Skole- og barnehageprogram er et forebyggings- og behandlingsprogram som retter seg mot barn i alderen 3 – 8 år. Programmet er et skole-/barnehageomfattende program, dvs. at hele ansatte gruppen i skolen/barnehagen mottar opplæring i programmet. Programmet er derfor et **universalforebyggende program**, men også et program der skolen/barnehagen også kvalifiseres til å redusere alvorlig atferdsproblemer. Programmet tilbys derfor i skolen til alle ansatte 1. – 3. klassetrinn og ansatte i SFO/AKS og til alle ansatte i barnehagen. Programmet kan utvides i skolen til å inkludere alle ansatte 1. – 7. klassetrinn med tilpasninger for 4. – 7. klassetrinn. Når man anvender programmet som universalforebyggende tiltak er målet å utvikle profesjonell klasse-/gruppeledelse og derved sette ansatte i skolen/barnehagen i stand til å skape positive relasjoner til barn, bringe barn i læringsposisjon, forebygge uro og atferdsproblemer og håndtere atferdsproblemer når de har oppstått. DUÅ Norge har derfor valgt å implementere programmet som et universalforebyggende tiltak som også er i tråd med helse- og utdanningsmyndighetenes signaler.

DUÅ Skole- og barnehageprogram er av Helsedirektoratet trukket frem og vurdert som program med internasjonal dokumentert effekt i forhold til å forebygge og redusere alvorlig problematferd hos barn i alderen 3 – 8 år og Helsedirektoratet anbefaler derfor en norsk evaluering av programmet. *Regionalt kunnskapssenter for barn og unge (RKBU Nord)* ved *Universitetet i Tromsø* gjennomfører i perioden 2009 – 2014 i samarbeid med *Regionalt kunnskapssenter for barn og unge (RKBU Midt-Norge)* ved *Norges teknisk-naturvitenskapelige universitet i Trondheim*, en Evalueringsstudie av programmet. Programmet viser allerede solid empiri fra originalmiljøet, men det er viktig å gjøre evalueringer i andre kulturer enn originalkulturen. Evalueringen vil bidra til ny kunnskap om barn og unges psykiske helse og trivsel i skoler og barnehager i Norge. Å delta i en slik evaluering er derfor viktig. Studien finansieres av Helsedirektoratet.

**Opplæring av DUÅ Skole- og barnehageprogram** – alle skoler/barnehager som skal motta opplæring i programmet innenfor forskningsperioden forespørres om å delta i Evalueringsstudien. Opplæring i programmet medfører ingen kursavgift, men det kreves at skolen/barnehagen setter av tilstrekkelig med tid slik at opplæring av programmet kan skje på en vellykket måte. Grunnopplæring i programmet innebærer 6 hele kursdager/workshop a 7 timer med cirka 1 mnd. mellomrom mellom hver kursdag/workshop. Skoler/barnehager som skal motta opplæring fra og med høsten 2013 bør bruke våren 2013 til planlegging og forberedelser av kursdager. Opplæring i programmet tilbys av erfarne gruppeledere i programmet ansatt ved kommunal PPT, eventuelt ved annen kommunal instans. I forbindelse med opplæring får skolen/barnehagen dekket et klasse-/gruppesett (60 % av total ansatt gruppe) av *Carolyn Webster-Stratton: Hvordan fremme sosial og emosjonell kompetanse hos barn*. For å kvalitetssikre videreføring og vedlikehold av programmet ved skolen/barnehagen etter gjennomført grunnopplæring, skal skolen/barnehagen motta minimum 7 veiledninger i etterkant av gjennomført grunnopplæring. Når og hvordan disse veiledningene skal gjennomføres, utarbeides i tett samarbeid med lokale DUÅ gruppeledere som har gitt opplæringen ved skolen/barnehagen og eventuelt i samarbeid med DUÅ administrasjonen.

**Etablering av DUÅ Skole- og barnehageprogram** – før skolen/barnehagen kan motta opplæring i programmet, må skole/barnehagen søke DUÅ om etablering av programmet. I søknad spørres det blant annet om motivasjon for å motta opplæring i programmet. Det er ikke ønskelig at opplæringen skal bidra til konflikt eller uro i ansatte gruppen. Det er derfor en forutsetning fra DUÅ at minst 80 % av de ansatte stiller seg positiv til opplæring i programmet ved skolen/barnehagen. Ved godkjent søknad inngås avtale om samarbeid mellom skolen/barnehagen og DUÅ. I avtalen ber vi ledelsen ved skolen/barnehagen bekrefte at nødvendige rammebetingelser for å etablere programmet ved skolen/barnehagen er til stede.

Søknadsskjema om etablering er vedlagt i samme e-post som denne invitasjonen til deltakelse i studien, eventuelt kan søknadsskjema lastes ned fra hjemmeside [www.deutroligearene.no](http://www.deutroligearene.no) eller mottas ved henvendelse til DUÅ. Spørsmål angående søknad om etablering av DUÅ ved skolen/barnehagen kan rettes til førstekonsulent for implementering og drift DUÅ, Marita Jensen – telefon: 77 64 58 68 eller e-post: [marita.jensen@uit.no](mailto:marita.jensen@uit.no).

**Deltakelse i Evalueringsstudien** – deltakelse i Evalueringsstudien innebærer at ledelsen ved skolen/barnehagen forplikter seg til å legge til rette for at ansatte får anledning til å fylle ut spørreskjema på aktuelle tidspunkt, samt ansvar for å følge opp gjennomføringen av spørreskjemautfyllingen ved skolen/barnehagen. Forskningsdesignet innebærer både pre målinger (før opplæring) og post målinger (etter opplæring), samt bruk av kontrollgrupper. Dette innebærer at ansatte i skoler/barnehager som mottar opplæring i programmet fyller ut spørreskjema før og etter opplæring i programmet. Alle 6 kursdager i programmet gjennomføres mellom de to spørreskjema utfyllingsperiodene. Første spørreskjema utfyllingsperiode gjennomføres høsten 2013 **før første kursdag** i programmet og siste spørreskjema utfyllingsperiode gjennomføres **etter siste kursdag** i programmet våren etter (2014). Ansatte i skoler/ barnehager som er i **kontrollgruppe og ikke mottar opplæring i programmet** fyller ut samme spørreskjema på samme tidspunkt som øvrige skoler/barnehager. Utfylling av spørreskjema gjennomføres via elektroniske linker eller på papirversjon av spørreskjema.

**Spørreskjema, informasjonsskriv og samtykkeskjema** – alle ansatte 1. – 3. klassetrinn + ansatte SFO/AKS i skolen fyller ut spørreskjema. Alle ansatte i barnehagen som arbeider med barn i alderen 3 – 6 år fyller ut spørreskjema. I tillegg vil kontaktlærere i skolen 1. – 3. klassetrinn og pedagogiske ledere i barnehagen som arbeider med barn i alderen 3 – 6 år bli bedt om å fylle ut spørreskjema for et lite utvalg av tilfeldige trukne barn (7 barn pr klasse 1. – 3. klassetrinn/7 barn pr avdeling 3 – 6 år). Hvilke barn det skal fylles ut spørreskjema om trekkes tilfeldig ved RKB Nord på bakgrunn av mottatt informasjon fra skolen/barnehagen om antall barn pr klasse 1. – 3. klassetrinn og antall barn i barnehagen i alderen 3 – 6 år. Spørreskjema om barn kan bare fylles ut såfremt det mottas samtykke fra foresatte til tilfeldige trukne barn. Foresatte til tilfeldige trukne barn vil også bli spurt om utfylling av et spørreskjema. Kontaktlærere i skolen 1. – 3. klassetrinn og pedagogiske ledere i barnehagen som arbeider med barn i alderen 3 – 6 år vil bli bedt om å dele ut informasjonsskriv med samtykkeskjema og spørreskjema til foresatte. Informasjonsskriv med samtykkeskjema og spørreskjema til foresatte sendes til skolen/barnehagen fra RKB Nord i ferdige sorterte bunker klare for utdeling.

**Honorar** – leder ved skolen/barnehagen tildeles en kontaktpersonrolle i tilknytning til skolens/barnehagens deltakelse i Evalueringsstudien. Kontaktperson mottar en økonomisk godtgjørelse på kr 1000 pr spørreskjema utfyllingsperiode, som totalt utgjør kr 2000 for begge datainnsamlingsperiodene høst og vår. Kontaktlærere/pedagogiske ledere som fyller ut spørreskjema om et lite utvalg av tilfeldig trukne barn mottar kr 500 pr spørreskjema utfyllingsperiode, som utgjør totalt kr 1000 for begge datainnsamlingsperiodene høst og vår. Eventuelt kan utbetaling av honorar gis som en samlet sum til deltakende skoler og barnehager. Ansatte i skoler og barnehager som er i kontrollgruppe mottar tilsvarende honorarutbetaling som øvrigedeltakende skoler/barnehager.

**Informasjonsmøter** – før skolen/barnehagen går i gang med første spørreskjema utfyllingsperiode (og opplæring i programmet) er det ønskelig at skolen/barnehagen stiller seg positivt til å gjennomføre et informasjonsmøte for ansatte 1. – 3. klassetrinn og ansatte SFO/AKS eller ansatte som arbeider med barn i alderen 3 – 6 år i barnehagen (og eventuelt foresatte til barn 1. – 3. klassetrinn/foresatte til barn på avdeling 3 – 6 år). Ved informasjonsmøtet vil RKB Nord informere om selve gjennomføring av spørreskjema utfylling ved skolen/barnehagen. Tidspunkt og sted for informasjonsmøter avtales nærmere pr telefon eller pr e-post med hver enkelt skole/barnehage. Spørsmål om Evalueringsstudien rettes til prosjektkoordinator Merete Aasheim, telefon 77 64 58 84, e-post:

[merete.aasheim@uit.no](mailto:merete.aasheim@uit.no)

#### **Evalueringsstudiens forskergruppe:**

Professor og leder Willy-Tore Mørch, RKB Nord/ UiT  
Professor May Britt Drugli, RKB Midt-Norge/NTNU  
Førsteamanuensis Sturla Fossum, RKB Nord/UiT  
Førsteamanuensis Charlotte Reedt, RKB Nord/UiT  
Forsker Sihua Kleist, RKB Nord/UiT  
Forsker Joshua Patras, RKB Nord/UiT

Med vennlig hilsen



Willy-Tore Mørch  
Professor ved Regionalt kunnskapssenter for barn og unge (RKB Nord)





### Til foresatte i skoler som skal delta i Evalueringstudien av De utrolige årenes (DUÅ) Skole- og barnehageprogram

ID-nummer:

Høst 2013

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#### Informasjon Evalueringstudien

Dette er en forespørsel til deg/dere om å delta i en forskningsstudie for å evaluere DUÅ Skole- og barnehageprogram. Deltakelse i forskningsstudien innebærer at du/dere først må samtykke til deltakelse i studien. Samtykke til deltakelse i studien innebærer at ditt barns kontaktlærer kan fylle ut spørreskjema om ditt barn, samt at du/dere som foresatte også fyller ut vedlagt spørreskjema i papirversjon og returner dette i vedlagt svarkonvolutt. Ønsker du/dere å fylle ut spørreskjema via elektronisk link, kan du/dere skrive av elektronisk link som er oppgitt i dette infoskrivet (på side 2), eventuelt be om å få tilsendt pr e-post elektronisk link til spørreskjema fra ditt barns kontaktlærer.

#### Bakgrunn og hensikt med å gjøre en evaluering av DUÅ Skole- og barnehageprogram

Denne skolen har valgt å gi ansatte opplæring i De Utrolige Årenes (DUÅ) Skole- og barnehageprogram. Opplæring i programmet kan gis til ansatte 1. – 3. klasstrinn (6 – 8 år), eventuelt til alle ansatte 1. – 7. klasstrinn, med tilpasninger til 4. – 7. klasstrinn. Målet ved DUÅ Skole- og barnehageprogram er å styrke personalets kompetanse i forebygging og håndtering av atferdsproblemer, samt å styrke kompetansen i klasse/gruppeledelse inklusive ulike proaktive læringstilnærminger. Programmet er et skole-/barnehageomfattende program, dvs. at hele ansatte gruppen i skolen/barnehagen (eventuelt bare ansatte som arbeider med barn i alderen 3 – 8 år) mottar opplæring i programmet. Programmet er derfor et universalforebyggende program, men et program der skolen/barnehagen også kvalifiseres til å redusere alvorlig atferdsproblemer. Når man anvender programmet som universalforebyggende tiltak er målet å utvikle profesjonell klasse-/gruppeledelse og derved sette ansatte i skolen/barnehagen i stand til å skape positive relasjoner til barn, bringe barn i læringsposisjon, forebygge uro og atferdsproblemer og håndtere atferdsproblemer når de har oppstått. DUÅ Norge har derfor valgt å implementere programmet som et universalforebyggende tiltak som også er i tråd med helse- og utdanningsmyndighetenes signaler. Opplæring i DUÅ Skole- og barnehageprogram gjennomføres som 6 hele kursdager/workshop og gis av trenede gruppeledere i programmet.

I tillegg til at ansatte ved skolen skal motta opplæring programmet har også skolen sagt seg villig til å delta i forskningsstudien som skal evaluere programmet i Norge. DUÅ er utviklet i USA av Carolyn Webster-Stratton og i USA og Wales er det gjennomført studier som dokumenterer god effekt av programmet (<http://www.incredibleyears.com/>). DUÅ Skole- og barnehageprogram er av Helsedirektoratet trukket frem og vurdert som program med internasjonal dokumentert effekt i forhold til å forebygge og redusere alvorlig problematferd hos barn i alderen 3 – 8 år og Helsedirektoratet anbefaler derfor en norsk evaluering av programmet. *Regionalt kunnskapssenter for barn og unge (RKBU Nord) ved Universitetet i Tromsø* gjennomfører i perioden 2009 – 2014 i samarbeid med *Regionalt kunnskapssenter for barn og unge (RKBU Midt-Norge) ved Norges teknisk-naturvitenskapelige universitet i Trondheim*, en evalueringstudie av programmet. Selv om programmet allerede viser solid empiri fra originalmiljøet, er det viktig å gjøre evalueringer i andre kulturer enn originalkulturen. Evalueringen omfatter barnehager og skoler på ulike steder i hele landet og vil bidra til ny kunnskap om barn og unges psykiske helse og trivsel i barnehager og skoler i Norge. Å delta i en slik evaluering er derfor viktig. Studien er godkjent av regional etisk komité ved Universitetet i Tromsø og finansieres av Helsedirektoratet.

#### Hva innebærer forskningsstudien?

Deltakelse i Evalueringstudien innebærer at alle ansatte 1. – 3. klasstrinn, SFO/AKS ansatte og assistenter som skal delta på opplæring i DUÅ Skole- og barnehageprogram skal gjennomføre utfylling spørreskjema. Det vil bli samlet inn informasjon/data via spørreskjema fra aktuelle ansatte og fra foresatte til noen tilfeldige utvalgte elever 1. – 3. klasstrinn **før** opplæring i programmet og **etter** gjennomført opplæring programmet. Dette betyr at det vil bli samlet inn informasjon/data på to tidspunkter. Tidspunkt for 1. datainnsamlingsperiode vil være i august/september 2013 og 2. datainnsamlingsperiode april/mai 2014. Det betyr at skolen skal gjennomføre en spørreskjemautfyllingsperiode høsten 2013 og en spørreskjemautfyllingsperiode våren 2014. Samme type spørreskjema fylles ut både høst 2013 og vår 2014.

### Forespørsel om samtykke og utfylling av spørreskjema

Som foresatte til tilfeldig trukket barn mottar du/dere i tillegg til dette infoskrivet også en forespørsel om samtykke (siste side) til at ditt barn deltar i studien. Deltakelse i studien innebærer at kontaktlærer fyller ut et spørreskjema om tilfeldig trukket elev og du/dere som foresatt til tilfeldig trukket elev fyller ut et spørreskjema. Hvilke barn som skal delta i studien er trukket statistisk tilfeldig ut ved RKBU – Nord/UiT på bakgrunn av mottatt informasjon om antall elever i hver klasse 1. – 3. klassetrinn ved skolen. Som foresatte bes du/dere om å signere og levere samtykkeskjema snarest og innen en uke etter at du/dere mottok dette infoskriv m/ samtykkeskjema. Samtykker du til at ditt barn deltar i forskningsstudien returnerer du/dere signert samtykkeskjema til ditt barns kontaktlærer. Skolen oppbevarer samtykkeskjema ved skolen til studien er avsluttet. Når studien er avsluttet vil skolen få beskjed om å makulere samtykkeskjema.

**Alle foresatte til tilfeldige trukne elever forespørres også om å fylle ut spørreskjema “for foresatte”. Spørreskjema omhandler barnets atferd hjemme og hvordan dere opplever samarbeidet med skolen. Foresatte kan ha andre oppfatninger om barnets atferd hjemme enn lærernes oppfatninger av barnets atferd på skolen og foresatte kan ha andre oppfatninger om samarbeid mellom skole og hjem enn ansatte ved skolen. Foresatte er derfor viktige informanter i studien!**

### Frivillig deltakelse

Deltakelse i studien er frivillig. Du kan når som helst og uten å oppgi noen grunn trekke ditt samtykke til å delta i studien. Dette vil ikke få konsekvenser for deg eller ditt barns forhold til skolen. Om du nå sier ja til å delta, kan du senere trekke ditt samtykke uten at det påvirker ditt barns tilbud ved skolen.

### Hva skjer med informasjonen om deg?

Alle opplysninger vil bli behandlet uten navn eller andre direkte personidentifiserende opplysninger. Det er kun rektor/kontaktlærere som kan koble ID-nummer med navn. Forskeren har ikke adgang til navn eller andre personidentifiserende opplysninger og vil kun bruke ID-nummer. Det vil ikke være mulig å identifisere deg eller ditt barn i resultatene av studien når disse publiseres. Alle skoler og deres foresatte som har deltatt i studien vil få presentert resultatene av studien når disse foreligger.

For å ivareta krav om anonymitet til foresatte og barn, følger det med i dette infoskrivet et ID-nummer (*seks siffer påført på første side*). Ved utfylling av spørreskjema vil du bli bedt om å skrive inn dette ID-nummeret når det spørres om barnets ID-nummer.

Fyller du/dere ut spørreskjema på papirversjon som du har mottatt fra ditt barns kontaktlærer, returnerer pr post i konvolutt til adressen:

**UiT Norges arktiske universitetet, RKBU Nord  
Evalueringstudien/DUÅ  
9037 TROMSØ**

Ønsker du å fylle ut spørreskjema via elektronisk link, skriv av link under, eventuelt be ditt barns kontaktlærer å sende elektronisk link til spørreskjema “for foresatte” pr e-post.

**Questback/elektroniske linker kan benyttes tom 17. november 2013.**

**Elektronisk link til spørreskjema:**

<https://response.questback.com/rbupuit/skoleforesattehost2013/>

*Da gjenstår det bare å takke for bidraget med å fremme ny kunnskap om barn og unges psykiske helse i skolen og lykke til med spørreskjema utfyllingen ☺*

Med vennlig hilsen



Willy-Tore Mørch  
Professor og prosjektleder for Evalueringstudien DUÅ

**Kontaktperson for studien ved RKBU – Nord/UiT:**

Merete Aasheim  
Prosjektkoordinator for Evalueringstudien  
Telefon 77 64 58 84  
E-post [merete.aasheim@uit.no](mailto:merete.aasheim@uit.no)  
Telefon 776 45884



**Samtykke fra foresatte til deltakelse i Evalueringsstudien av  
De Utrolige Årenes (DUÅ) Skole- og barnehageprogram høst 2013 – vår 2014:**

Jeg samtykker med dette til mitt barns deltakelse i Evalueringsstudien av  
De Utrolige Årenes Skole- og barnehageprogram<sup>1</sup>

Dato:
Foresattes navn:

---

<sup>1</sup> Samtykkeskjema returneres til ditt barns kontaktlærer og arkiveres ved skolen så lenge studien pågår. Skolen vil motta beskjed om å makulere samtykkeskjema ved avslutning av studien.





## UNIVERSITETET I TROMSØ UIT

DET HELSEVITENSKAPELIGE FAKULTET  
REGIONALT KUNNSKAPSSENTER FOR BARN OG UNGE, NORD  
PSYKISK HELSE OG BARNEVERN (RKBU/NORD)

### Foresatte og ansatte i skole og barnehage

Viktige informanter for å fremme ny  
kunnskap om virksomme tiltak som  
styrker barn og unges psykiske helse i  
skole og barnehage



Dinosaur puppet © Axtell Expressions, Inc



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REGIONALT KUNNSKAPSSENTER FOR BARN OG UNGE, NORD  
PSYKISK HELSE OG BARNEVERN (RKBU/NORD)

Nærmere informasjon om DUÅ Skole-  
og barnehageprogram eller  
Evalueringstudien:

**Telefon:** 77 64 58 84/ 77 64 58

**E-post:** kontakt@deutroligearene.no

**Hjemmeside:**  
[www.deutroligearene.uit.no](http://www.deutroligearene.uit.no)



Illustrasjonsfoto: Colourbox

## De Utrolige Årenes (DUÅ) Skole og- barnehageprogram

DUÅs Skole- og barnehageprogram er et forebyggings- og behandlingsprogram mot atferds- og sosiale vansker for barn i alderen 3 – 8 år.

Programmet er **universalforebyggende** og tilbys til alle ansatte i skole og barnehage som arbeider med barn i alderen 3 – 8 år, samtidig som ansatte også kvalifiseres til å redusere alvorlige atferdsproblemer.

### Som universalforebyggende program er målet å:

- fremme ansattes ferdigheter i klasse-/ gruppeledelse
- skape positive relasjoner til barn
- fremme barns sosiale og emosjonelle kompetanse
- forebygge uro og atferdsproblemer
- bringe barn i læringsposisjon
- fremme samarbeid mellom barnehage/ skole og hjem



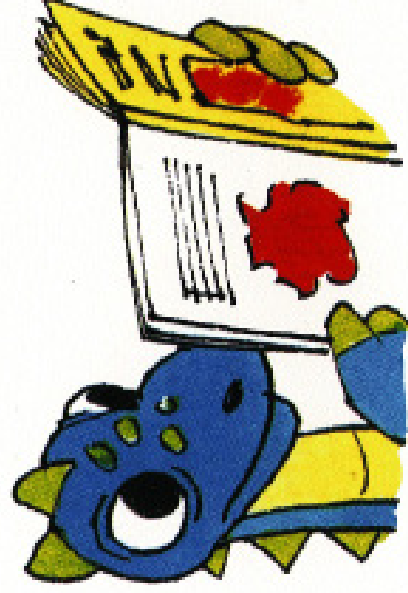
© Carolyn Webster-Stratton

## Ny kunnskap

DUÅ Skole- og barnehageprogram er et program med internasjonal dokumentert effekt i forhold til å forebygge og redusere alvorlig problematferd hos barn i alderen 3 – 8 år. Helsedirektoratet ønsker derfor å gjøre en norsk evaluering av programmet.

Ansatte i skole og barnehage som arbeider med barn i alderen 3 – 8 år og som mottar opplæring i programmet vil bli spurt om å fylle ut spørreskjema. Også ansatte i skoler og barnehager som *ikke* mottar opplæring i programmet (kontrollgrupper), vil bli spurt om å fylle ut spørreskjema.

Alle opplysninger behandles anonymt og studien er godkjent av REK Nord (Regional komite for medisinsk og helsefaglig forskning). Alle skoler og barnehager som har deltatt studien, samt deres foresatte vil få tilgang til et nyhetsbrev når resultatene fra studien foreligger. Evalueringsstudien er finansiert av Helsedirektoratet.



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## Foresatte er viktige informanter

I tillegg til informasjon fra ansatte i skoler og barnehager trenger vi også informasjon fra foresatte til barn i alderen 3 – 8 år.

Foresatte til tilfeldige utvalgte barn i alderen 3 – 8 år i skoler og barnehager som mottar opplæring og i skoler og barnehager som er i kontrollgrupper (ikke mottar opplæring i programmet), vil bli spurt om å fylle ut spørreskjema.

Foresatte ved deltakende skoler og barnehager vil motta et informasjonsbrev om deltakelse i studien, samt en forespørsel om samtykke til deltakelse.

Foresattes oppfatninger om barns atferd kan være forskjellige fra ansattes oppfatninger om barns atferd i barnehage og skole. Ansatte i skole, barnehage og foresatte er viktige informanter for å fremme ny kunnskap om virksomme tiltak som styrker barn og unges psykiske helse i skole og barnehage. Å delta i en slik evaluering er derfor viktig.



**UNIVERSITETET  
I TROMSØ UiT**

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Regionalt kunnskapssenter for barn og unge - Nord  
psykisk helse og barnevern (RKBU - Nord)