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

Abstract

In the present study, the Incredible Years Teacher Classroom Management (IY-TCM) program were implemented as a universal preventive intervention in a regular, lower primary school setting. Outcomes for teacher's behaviour management practice, problem behaviour in the classroom and the school environment, teacher self- and collective efficacy, and classroom climate were examined. Using a quasi-experimental pre-post comparison group design, teacher-reported outcomes were compared between 163 teachers in 21 schools who participated in the IY-TCM program (6 full-day workshops over 8 to 9 months, 42 hours in total) and 139 teachers from 23 schools who did not participate in the program. No statistically significant main effects of the IY-TCM program on teacher-reported outcomes were revealed by linear mixed model analyses. Possible explanations for lack of findings are discussed, as are study limitations, strategies for future delivery of the IY-TCM program, and future research.

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Problem behaviours displayed by students in primary school may be a powerful predictor of poor long-term outcomes, including academic problems, school dropout, maladjustment and crime, substance abuse, unemployment, and poor mental health (Odgers et al., 2008). Moreover, classrooms with high levels of disruptive and aggressive behaviour may result in a negative learning environment, which can place children at a higher risk for developing more serious academic, behavioural, social, and emotional problems. Children who exhibit problem behaviour in the classroom frequently go off-task, display aggression towards others, argue, refuse to cooperate, and talk loudly, are affecting both their own learning opportunities and those of the students around them (Moffitt & Scott, 2009). Teachers' attempts to control disruptive behaviour take time away from academic learning and inhibit positive relationships between students and teachers, and between peers, which in turn can negatively affect students' academic performance, school attachment, and social well-being (Conroy, Sutherland, Haydon, Stormont, & Harmon, 2009; Downer, Sabol, & Hamre, 2010; Simonsen, Fairbanks, Briesch, Myers, & Sugai, 2008). Negative teacher-student interactions are more likely to occur in poorly managed classrooms, and these classroom environments contribute to students' risk of developing problem behaviour (Reinke & Herman, 2002; Webster-Stratton, Reid, & Hammond, 2004). It has been well-established that teachers' classroom management skills are important to support young children's behavioural, social, and emotional competence (Hamre & Pianta, 2005; Oliver, Wehby, & Reschly, 2011). Classroom management practices have been defined as the actions teachers implement to create an educational environment that supports and facilitates students' learning opportunities, both academically and socio-emotionally. These include non-academic

classroom procedures, such as teaching prosocial behaviour, and the use of proactive strategies to prevent and reduce disruptive classroom behaviour (Evertson & Weinstein, 2006). Effects of teacher's classroom management practices, i.e., monitoring student attention and performance, establishing behavioural expectations, and consistently implementing rules and procedures that prevent problem behaviours from occurring, have been shown to significantly decrease problem behaviour in the classroom (Oliver et al., 2011). Research has also demonstrated that teachers in well-managed classrooms who use proactive teaching strategies, including praise and encouragement for appropriate behaviours, and non-harsh discipline, may foster children's behavioural, social, and emotional adjustment, skills which are essential to academic learning (Murray, Rabiner, Kuhn, Pan, & Sabet, 2017; Reinke, Herman, & Dong, 2018; Webster-Stratton, Reid, & Stoolmiller, 2008).

Within the Social Cognitive Theory (Bandura, 1997; Bandura & Estes, 1977), self-efficacy is defined as teachers' beliefs in their own ability to plan, organize, and execute courses of action that are required to successfully accomplish a given educational goal or specific teaching task (Skaalvik & Skaalvik, 2010; Tschannen-Moran & Hoy, 2001). Furthermore, teachers who set more challenging goals for themselves, take more personal responsibility for student outcomes, and are more open to new teaching methods, are assumed to have a strong belief in their own efficacy (Tschannen-Moran & Hoy, 2001). The teacher may also have beliefs about a shared capability, or collective efficacy, the school possesses to execute actions required to produce given attainments. Perceived collective efficacy refers to teachers' judgement that the faculty as a whole can organize and execute the courses of action required to have a positive effect on students (Goddard, Hoy, & Hoy, 2004; Skaalvik & Skaalvik, 2010). Hence, it is of value to examine teachers' perceived efficacy at both the individual and collective level.

Classroom climate may also have an important impact on students' social and emotional, cognitive, and academic development (Hamre & Pianta, 2010). The quality of the emotional support and closeness that teachers offer to students, e.g., a teacher-student relationship characterized by warmth, respect, caring, and positive affect, have been recognized as a critical factor of classroom environment, especially for children at risk for developing behavioural problems (McGrath & Van Bergen, 2015; Sabol & Pianta, 2012). Furthermore, teacher behaviours like establishing behavioural guidelines in ways that promote student motivation, coaching students through conflict situations, encouraging cooperation among students, and acting as a role model for respectful communication and prosocial behaviour, are associated with optimal classroom climate and desired student outcomes (Jennings & Greenberg, 2009).

The Incredible Years Teacher Classroom Management program

The Incredible Years (IY) program series is a comprehensive series of interventions including parent, child, and teacher training components that were developed to prevent problem behaviour and promote social skills in young children (Webster-Stratton, 2012). The IY-Teacher Classroom Management (IY-TCM) program focuses on creating a positive classroom environment through preventive rather than reactive procedures, and on directing teachers' attention towards positive rather than negative student behaviours. In previous studies by the developer of the IY program series, other IY components were included in addition to the TCM program, such as the parenting program and the child curriculum. These studies found substantial evidence that child and teacher behaviour were positively affected by the IY programs (Webster-Stratton, Reid, & Hammond, 2001; Webster-Stratton et al., 2004; Webster-Stratton et al., 2008). Significant positive changes in teacher behaviour after the IY-TCM program, such as increased use of praise, encouragement, and incentives; and fewer harsh and critical statements, have also been demonstrated by other independent

investigators (Baker-Henningham & Walker, 2018; Baker-Henningham, Walker, Powell, & Gardner, 2009; Hickey et al., 2017; McGilloway et al., 2010). An evaluation by Leckey et al. (2016) showed significant improvements in teachers' classroom management strategies, as well as qualitative findings of proactive discipline strategies and higher levels of teacher self-efficacy. Further, Hutchings, Martin-Forbes, Daley, and Williams (2013) found significant reductions in the total number of commands (e.g., negative instructions) teachers gave to children after they completed the IY-TCM program, which in turn led to an increase in the rate of compliance in children, such as children showing more attention and willingness to cooperate with their teachers. In a recent study by Murray et al. (2017), the IY Teacher Satisfaction Questionnaire was used to determine teacher satisfaction after completing the program, and a high level of teacher satisfaction was observed. Moreover, a statistically significant effect on teacher-reported classroom climate was observed among teachers who had completed the program, but this effect was not maintained into the next school year. Prior qualitative research has also indicated that the strategies taught in the IY-TCM program were perceived to be useful by teachers (Carlson, Tiret, Bender, & Benson, 2011; McGilloway et al., 2010; Williford & Shelton, 2008).

Purpose of the study

The present study used a quasi-experimental pre-post comparison group design to examine the effects of the IY-TCM program, when implemented as a universal preventive intervention among all teachers of first-to-third grades in a regular school setting, on teacher-reported outcomes: behaviour management practice, problem behaviour in the classroom and the school environment, teacher self-efficacy and collective efficacy, and classroom climate. The studies cited above showed a promising effect of the IY-TCM program on teacher behaviour (Baker-Henningham & Walker, 2018; Baker-Henningham et al., 2009; Carlson et al., 2011; Hickey et al., 2017; Hutchings, Daley, Jones, Martin, & Gwyn, 2007; Hutchings et

al., 2013; Leckey et al., 2016; McGilloway et al., 2010; Murray et al., 2017; Webster-Stratton et al., 2001, 2004; Webster-Stratton et al., 2008; Williford & Shelton, 2008). However, the majority of these studies was carried out in "problem" schools, with children from adverse backgrounds or identified risk factors (e.g., Head Start centres, high poverty schools in urban areas, and schools that receive a higher level of support in terms of pupil-teacher ratios, special school grants and extra support for students). Therefore, it is not known whether the IY-TCM program can provide comparable benefits for teachers in regular school settings with no specific risk factors.

The following research questions were proposed. 1) Do teachers in a regular school setting who attend the IY-TCM program change their behaviour management practices, i.e., is their use of positive behaviour support and behavioural correction strategies more favourable when compared to other teachers? 2) Are the reports of problem behaviour and classroom climate more favourable among teachers who complete IY-TCM program compared to those who do not participate? 3) Do teachers who complete the IY-TCM program change their self- and collective efficacy in a more favourable manner than other teachers? Overall, a more favourable development in the intervention group was expected. However, as the IY-TCM program was implemented as a universal preventive intervention in a regular school setting with a low-risk student population, large effects were not expected.

Methods

Participants

IY Norway and invited municipalities that had already implemented the IY-Parenting program to implement the IY-TCM program using available IY group leaders, and to participate in the research. Extensive predefined study inclusion criteria for IY-TCM had to be met prior to study participation: participating schools had to agree to school-wide implementation of IY-TCM in first-to-third grade, and this implementation had to be

approved by at least 80% of the teaching staff. In addition, to examine the organization's readiness for program implementation, schools and municipalities had to fulfil an Agency Readiness Questionnaire Provided by IY Norway. If these criteria were met, the school was enrolled in the study and allocated to the IY-TCM group (the intervention group of the study). Of the 25 schools that applied, 21 met the inclusion criteria and were offered the IY-TCM program free of charge. The four schools that did not meet these criteria accepted to be allocated to the comparison group, and were offered IY-TCM program once the study had ended.

To minimize program contamination, IY Norway contacted education agencies in 12 municipalities that had not yet offered any IY programs, and invited schools to participate as part of the comparison group of the study. These municipalities were strategically selected so that their schools could be matched to schools in the IY-TCM group by geographical location and school size (small <200 students, medium 201-350 students, or large 351-780 students) (Nygård, 2014). Of the 32 schools invited to be part of the comparison group, 19 accepted. These schools were offered modest financial compensation, and if they wanted to implement the IY-TCM program after the study had ended, IY Norway offered them support to do so.

Therefore, in total, there were 21 schools allocated to the IY-TCM group and 23 schools allocated to the comparison group (4 who did not meet IY-TCM criteria and 19 mentioned above). The mean size for all 44 schools was 179 students (range 22-652); the total number of first-to-third grade classes was 225 (124 in the IY-TCM group and 101 in the comparison group). Mean class size was 19.5 (standard deviation [SD] = 9.1). None of the 44 schools were actively attending or had attended any other evidence-based school intervention programs during the previous year. The flow of participants through each stage of the study is illustrated in Figure 1.

<Insert Figure 1 here>

Three hundred two teachers (163 in the intervention group and 139 in the comparison group) who had daily contact with students were invited to complete questionnaires both prior to the IY-TCM program (pre-assessment) and following the completion of the IY-TCM program (post-assessment). These questionnaires were used to collect information on the investigated outcomes. Respondents received a small financial compensation for the time spent completing the questionnaires. Demographic information on the schools and teachers included in the study is presented in Table 1. None of the demographical variables showed significant group differences at the .05 level.

<Insert Table 1 here>

Attrition

Of 302 invited to complete questionnaires, 277 (92%) completed the pre-assessment, 151 (93%) in the IY-TCM group and 126 (91%) in the comparison group. The 25 teachers who did not complete the pre-assessment were excluded: 12 were from the IY-TCM group and 13 were from the comparison group. Eleven of the 25 participants were missing due to protocol errors (2 in the IY-TCM group and 9 in the comparison group), and 14 were due to missing replies and insufficiently completed questionnaires (10 in the IY-TCM group and four in the comparison group).

Two hundred thirty-five teachers completed the post-assessment, 121 (74%) in the IY-TCM group and 114 (82%) in the comparison group. Of the 42 teachers who did not complete the post-assessment, 31 were from the IY-TCM group and 11 were from the comparison group. Teachers did not complete the post-assessment for various reasons: one school in the IY-TCM group dropped out due to organizational issues (7 teachers); five teachers were lost due to leave or changing jobs (3 in the IY-TCM group and 2 in the comparison group); and 30 participants had missing replies or insufficiently completed questionnaires (21 in the IY-TCM group and 9 in the comparison group).

For the pre-post analysis, an additional 28 teachers were excluded: seven in the IY-TCM group and one in the comparison group who had participated in TCM training before pre-assessment; six in the IY-TCM group who did not participate in the TCM training at all, and 14 who completed the post-assessment only (10 in the IY-TCM group and 4 in the comparison group). After all these exclusion, 98 teachers from the IY-TCM group and 109 teachers from the comparison group were included in the pre-post analyses.

Procedure

This quasi-experimental pre-post study enrolled teachers across 5 consecutive years, from the fall of 2009 to the fall of 2013. Before pre-assessment and the beginning of the IY-TCM program, all teachers were informed about data collection procedures. Teachers in the IY-TCM group also received information about the program itself. Pre-assessment took place during the fall, about 3 weeks before the first IY-TCM workshop. Post-assessment was carried out in the spring of the following semester, about 3 weeks after the final IY-TCM workshop. The duration between the two assessments was typically 8 to 9 months. Schools and teachers were anonymized using ID codes. Pre- and post-assessments were either completed and returned by the participants in pre-paid envelopes or completed using the Internet survey tool Quest Back.

At the time of the study's implementation, the funder, the Norwegian Directorate of Health, wanted there to be clear barriers between the implementation of IY-TCM in Norway and the research project, in order to facilitate independence between research and implementation. This made it difficult to provide valid data from the implementation process. The study was approved by the Regional Committee for Medical and Health Research Ethics, Norway. Approval/reference number: 200803705-7/MGA006/400.

The intervention

The IY-TCM program addresses teacher management skills and classroom climate with six, full-day workshops, each dedicated to a specific topic: (1) building positive relationships between teacher and student, and between teacher and parents; (2) teacher attention, coaching, encouragement, and praise; (3) motivating students through incentives; (4) decreasing inappropriate behaviour - ignoring and redirecting; (5) decreasing inappropriate behaviour - follow through with consequences; and (6) emotional regulation, social skills, and problem solving (Webster-Stratton, 2012).

All IY-TCM group leaders had to have a bachelor's or master's degree in teaching, special education, psychology, health, or social studies, in addition to suitable personal characteristics, and they had to have completed a 21-hour mandatory TCM training course provided by IY Norway. To maintain their status as approval qualified group leaders, they had to deliver the IY-TCM program to teachers at least once per year on average (or in 1-2 schools depending on school size), which also was the requirement before they could run the IY-TCM workshops for this study. Group leaders were trained by two IY-TCM mentors (certified by the program originator in both the IY-Parenting and the IY-TCM program) and were supervised by these mentors throughout the data collection period.

In the present study, two group leaders trained groups of 15-20 teachers through six full-day workshops, over an 8- to 9-month period, 42 hours in total. The workshops include active learning training methods recommended for teachers (Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009), such as video-modelling, behavioural rehearsal of key skills through role play, classroom practice assignments, and teacher goal-setting and self-monitoring. Teachers were encouraged to self-reflect on their current practices using program checklists, to set aims for implementing specific program strategies in their classroom, to practice the strategies during the month following each workshop, and to report

on their experiences at the start of the following workshop. Group leaders provided teachers

with guidance after each workshop. As part of the training, teacher were given the IY-TCM

program book; *How to Promote Social and Emotional Competence in Young Children*

(Webster-Stratton & Okstad, 2005), and asked to read sections each month as recommended

by the program protocol. To ensure evidence-based implementation of the program, fidelity in

training was promoted by means of checklists completed by both group leaders and teachers,

including user satisfaction questionnaires, which were completed at the end of each workshop

(Webster-Stratton, Reinke, Herman, & Newcomer, 2011).

Measures

      Behaviour Management Practices. Teachers' strategies to promote positive student

behaviour and manage problem behaviour were assessed using a 32-item scale originally

developed by Grey and Sime (1989). The items were later translated into Norwegian, and

have already been used in a nationally representative study of problem behaviour in regular

school settings (Ogden, 1998). Exploratory factor analysis on pre-assessment data revealed a

two-factor structure, interpreted as "Positive Behaviour Support Strategies" (12 items,

alpha = .78) and "Behaviour Correction Strategies" (15 items, alpha = .72). Teachers were

asked how many times in the previous week they had used positive behavioural supportive

strategies, such as "reasoning with a student in the classroom setting" and "praised positive

student behaviour", and behavioural corrections strategies, such as "threaten with sending

student to Principal's office" and "keeping a student in detention". Items were rated on a 4-

point scale (1 = *never*, 4 = *often*).

      Problem behaviour in the classroom and the school environment. The prevalence of

problem behaviour was measured using two scales: "Problem Behaviour in the Classroom"

(20 items) and "Problem Behaviour in the School Environment" (15 items), based on Grey

Grey and Sime (1989) and Ogden (Ogden, 1998). Teachers and staff were asked how many

times in the previous week they had observed various types of problem behaviour in the classroom and in the school environment. Item examples include "talking out of turn and making unnecessary (non-verbal) noise", "physical aggression towards other students", and "running in corridors". A 5-point Likert scale was applied (1 = *not observed*, 5= *observed several times per day*). Satisfactory psychometric properties in prior Norwegian studies have been shown (Kjøbli & Sørlie, 2008; Sørlie & Ogden, 2007; Sørlie, Ogden, & Olseth, 2016). Based on frequency analysis, five items in the "Problem Behaviour in the Classroom" scale were excluded due to low variation. Further, exploratory factor analyses revealed underlying sub-factors for each scale: moderate and severe problem behaviour in the classroom (8 and 7 items); moderate and severe problem behaviour in the school environment (7 and 8 items). The sub-factors showed acceptable internal reliability for "Moderate Problem Behaviour in the Classroom" (a = .87) and for "Moderate Problem Behaviour in the School Environment" (a = .82). Acceptable internal reliability was not found for "Severe Problem Behaviour in the Classroom" (a = .60) or for "Severe Problem Behaviour in the School Environment" (a = .49), as values below .70 were considered inadequate (Evers et al., 2013), which is in line with results from a previous school-based intervention study (Sørlie, Ogden, & Olseth, 2015).

Teacher self-efficacy and collective efficacy. Teachers' perception of their level of self-efficacy was measured using the Teachers' Sense of Efficacy Scale (TSES; Tschannen-Moran & Hoy, 2001). Tschannen-Moran and Hoy (2001) developed two versions of this instrument: a long version with 24 items and a short version with 12 items. The present study used 16 items from the long version, in which teachers rated how competent they felt in managing students' behaviour on a 9-point scale. For example: "How well can you implement alternative strategies in your classroom?"; "How much can you control disruptive behaviour in the classroom?"; "How much can you do to motivate students who show low interest in schoolwork?" The Teachers' Sense of Efficacy Scale was translated into Norwegian by a

professional translator, two experienced language teachers, and two experienced researchers. To avoid errors, the Norwegian version was back-translated into English. A total score was calculated based on the 16 items used in this study. Cronbach's alpha for these 16 items was .95 for the pre-assessment data in the present study.

Teachers' collective efficacy was measured with the Collective Efficacy Scale (CES) developed by Goddard (2002), which is a revised short version of the CES (CES; Goddard, Hoy, & Hoy, 2000). The CES is a frequently used 12-item instrument that assesses the extent to which teachers believe in their mutual capability to influence students' learning and school outcomes positively. Responses were given on 6-point scale (1 = *totally disagree*, 6= *totally agree*), and the instrument consists of items such as "teachers here are confident that they will be able to motivate their students" and "teachers in this school are able to get through to difficult students". A total score was calculated based on the 12 CES items. Cronbach's alpha for these 12 items was .81 for the pre-assessment data.

Classroom climate. To assess the quality of the general learning climate in the classroom the Classroom Environment Scale, based on the instrument created by Moos and Trickett (1974), was used. The Classroom Environment Scale is a 14-item instrument that includes statements like "the students in this class are good friends" and "the students are active and interested during lessons". Responses are given on a 4-point scale (1 = *does not fit*, 4 = *fits completely*). A total score was calculated based on all the 12 items. The instrument was translated into Norwegian by Ogden (1998), and has been shown to have acceptable internal consistency in prior studies (Ogden, 1998; Sørlie & Ogden, 2007). Cronbach's alpha for the Classroom Environment Scale was .79 for pre-assessment data.

Statistics

Statistical analyses were conducted with SPSS 24. The independent sample t-test and the Pearson's chi-square test were used to test for group differences on demographic

variables. The data were hierarchically organized, with teachers (level 1) nested within schools (level 2). Linear mixed models were used to test for group differences in pre-assessment scores and between score at pre- and post-assessment. The dependency in data is handled by the linear mixed models, which is a suitable method for analysing hierarchical data. Effect sizes (*d*) were calculated according to Feingold (2013) recommendations, where the standardized mean difference was calculated based on the unstandardized mean difference (regression coefficient) divided by the pooled, within-group SD of the raw outcome scores at pre-assessment. The effects (*d*) are shown with a positive value when the IY-TCM group had a more favourable change than the comparison group. Intra-class correlations were calculated on outcome variables based on the change in scores to estimate the degree of dependency within schools that this clustering causes. Intra-class correlations ranged from 0.04 to 0.20. The mean (*M*) and standard error (*SE*) we report were obtained from the Estimated Marginal Means table output in SPSS. A significance level of .05 was used for all tests.

Results

With the exception of classroom climate, no variables differed between the IY-TCM and comparison groups at pre-assessment (Table 2). Indeed, the scores on classroom climate were significantly higher in the comparison group ($t = 2.06$, p = .05).

Change in teacher-reported outcomes from pre- to post-assessment

The difference in teacher-reported use of positive behaviour support strategies ($p = 0.50$) and behaviour correction strategies ($p = 0.66$) from pre to post-assessment was non-significant between the two groups (Table 2). This was also true for the difference in teacher-reported problem behaviour in the classroom ($p = 0.07$), for the sub-scores moderate ($p = 0.053$) and severe problem behaviour in the classroom ($p = 0.57$) (Table 2). Further, none of the group differences in teacher-reported problem behaviour in the school environment from pre- to post-assessment were significant; neither by total score or by sub-scores (see

Table 2). Furthermore, no significant effects of the IY-TCM were observed for teacher-reported self-efficacy ($p = 0.27$) or collective efficacy ($p = 0.46$) from pre- to post-assessment (see Table 2). When teachers with pre- and post-assessment data were compared with those with missing data at post-assessment, a significant interaction on self-efficacy emerged in the drop out group. The predicted mean score at pre-assessment for self-efficacy in drop-outs from the comparison group was significantly lower ($M = 105.00$, $SE = 4.01$) than that of teachers from the comparison group with complete data ($M = 114.49$, $SE = 1.73$), whereas the predicted mean score for self-efficacy in drop-outs from the IY-TCM group did not differ significantly ($M = 115.53$, $SE = 2.61$) from that of teachers with complete data ($M = 113.44$, $SE = 1.83$) at pre-assessment. Moreover, the group difference in pre-post change in teacher-reported classroom climate was not significant ($p = 0.80$) (Table 2). Although none of the effects of the IY-TCM program on teacher-reported outcomes were statistically significant, mean scores suggested that the intervention did improve teacher behaviour to some extent relative to pre-assessment; this was especially true for teacher-reported problem behaviour in the classroom, self-efficacy, and classroom climate.

Possible moderating effects of sex, age, education, work experience, school size, and class size on all outcome variables were examined; however, no significant moderators were found. For further details about descriptive statistics at pre- and post-assessment estimates, group differences in pre-post changes, and effect sizes, see Table 2.

<Insert Table 2 here>

Discussion

The present study evaluated the impact of the IY-TCM program on teacher-reported behaviour management practice, problem behaviour, self- and collective-efficacy, and classroom climate, after all teachers of first-to-third grades in a regular school setting completed IY-TCM as a universal preventive intervention. Given than the IY-TCM program

has been examined primarily in disadvantageous or high-risk school settings, we aimed to determine the program's impact as a universal preventive intervention in general school settings. Specifically, we examined the effects on teacher-reported use of positive behaviour support and behaviour correction strategies in the classroom, teacher-reported problem behaviour in the classroom and in other school environments, teacher-reported perception of self- and collective efficacy, and of classroom climate. The changes were small, as indicated by effect sizes ranging from –0.06 to 0.32, and none of the outcome variables were statistically significant at the 0.05 level.

Teachers in the IY-TCM group did not change significantly from pre- to post-assessment in their use of positive and negative classroom management strategies, when compared to teachers in the comparison group. In order to explain these findings, issues of acceptability and appropriateness may need to be addressed when transferring the IY-TCM program to other countries. For instance, the standard American vignettes used in the IY-TCM program have been viewed as being at odds with non-American educational contexts, e.g., teachers have noted that the American classrooms portrayed in the vignettes are incongruent with their own (Nye, Melendez-Torres, & Gardner, 2018). This may affect how well the teachers adopted the strategies presented in the film vignettes.

In the Jamaica studies (Baker-Henningham & Walker, 2018; Baker-Henningham et al., 2009), where a significant increase in teachers' positive behaviour and a reduction in negative behaviour were found; the Jamaican teachers had lower professional qualifications (i.e., teaching assistants). The teachers in the Jamaica studies were experienced, but on average less than 10% of them were actually educated as teachers (Baker-Henningham & Walker, 2018). This in contrast to teachers in the present study, where 90% of the teachers in the IY-TCM group were educated as teachers and on average had more than 12 years' work experience ($M = 12.2$ years, $SD = 9.4$), and 97% of teachers in the comparison were educated

as teachers and on average had more than 14 years' work experience ($M = 14.4$, $SD = 9.0$) (see Table 1). Taken together, this suggested little room for improvement in teacher's behaviour in the present study. Effective classroom management may also depend on how well teachers command authority. Students tend to give authority to teachers who succeed in building positive relationships, establish a good learning environment, promote autonomy by encouraging the student participation in decisions about behaviour, and manage the challenges arising from student problem behaviour (Vaaland, 2016). An authoritative teacher is acknowledged as the most effective and preferable teacher in schools; hence this "teacher model" has served as a basis for other characteristics included in several evidence-based interventions offered to Norwegian schools during the last years (Ertesvåg, 2011). Different cultural or professional beliefs and values may also have affected the teacher's acceptability and receptiveness to the IY-TCM program, such as the specific learning techniques and the manualized nature of the program (Nye et al., 2018). Teachers' motivation for changing their behaviour management practices or their need for improvement may have been minor in this study.

Measures used in previous studies that showed significant effects on change in teacher behaviours have been shown to be more theoretically aligned with the IY-TCM intervention (Baker-Henningham et al., 2009; Hickey et al., 2017; Hutchings et al., 2013; Leckey et al., 2016; McGilloway et al., 2010; Webster-Stratton et al., 2008). One frequently used measurement is the Teacher Strategies Questionnaire (Webster-Stratton, 2018), which is used to collect self-reported frequency of teachers' use of positive and negative classroom management strategies, and the Teacher–Pupil Observation Tool (Martin et al., 2010), which is a classroom observation measure developed specifically for classroom observation to provide detailed insights into the nature of teacher-student interactions (e.g., commands, questions, warnings, and praise) in classroom settings (Martin et al., 2010; Webster-Stratton,

2018). On the other hand, the measures used in our study have not demonstrated sensitivity to the IY-TCM program before.

Positive effects of the IY-TCM program were not observed for teacher-reported problem behaviour in the classroom or in the school environment, nor when exploring the sub-scores of moderate and severe problem behaviour in the classroom and in the school environment. In agreement with our findings, no positive effects on problem behaviour in the classroom were found 1 or 3 years after the implementation of the School-Wide Positive Behaviour Support (SWPBS) model in Norway (Sørlie & Ogden, 2015; Sørlie et al., 2015). However, contrary to our findings, small to moderate effects on problem behaviour in the school environment were found after 1 year, including on moderate and severe problem behaviour (Sørlie et al., 2015), and after 3 years of SWPBS implementation (Sørlie & Ogden, 2015). The SWPBS model and the IY-TCM program were both presented to teachers as universal preventive interventions.

A possible reason for the different findings may be that the SWPBS model is directed more towards the whole school environment, whereas the IY-TCM program is directed towards the classroom environment and how each teacher manages the classroom. In general, the prevalence of problem behaviour at the lower primary school level (student age 6 to10 years) in Norway is low (Heiervang et al., 2007; Wichstrøm et al., 2012) compared to European countries or the US (Ford, Goodman, & Meltzer, 2003; Kroes et al., 2001; Merikangas et al., 2010). In a student sample within the same cohort as the present study, students scored more favourably than what is typical for Norwegian students at the lower primary level (grades 1 to 4) on the Sutter-Eyberg Student Behaviour Inventory-Revised Intensity Scale (Kirkhaug, Drugli, Mørch, & Handegård, 2012), and the Teacher Report Form total scale (Larsson & Drugli, 2011). This may suggest that students behaved well with teachers in the present sample. Also within the same study cohort as in the present study, a

positive effect on teacher-student conflict was found in a sub-sample of high-risk students ($g = -0.65$) (Kirkhaug et al., 2016). Positive effects on teacher-student closeness ($d_w = 0.22$) and conflict ($d_w = 0.15$) were also found for the entire group of students with teachers in the IY-TCM group (Aasheim, Drugli, Reedtz, Handegård, & Martinussen, 2018). In addition, for this identical sample, positive effects on problem behaviour and social skills were demonstrated in favour of the IY-TCM intervention group ($d_w = 0.08 - 0.20$) (Aasheim, Reedtz, Handegård, Martinussen, & Mørch, 2018). Given these effects on student outcomes and on teacher-student relationships, significant effects on teacher outcomes could have been anticipated, but those findings were not confirmed in the present study.

Similar to our findings on teacher-reported self- and collective efficacy, the SWPBS model in Norway failed to verify significant effects on the Teachers' Sense of Efficacy Scale or the Collective Efficacy Scale after 1 year of implementation (Sørlie et al., 2015, 2016). But small effects on self- and collective efficacy were confirmed after 3 years with the SWPBS model (Sørlie et al., 2016), which may suggest that the non-significant findings in our study could be explained by the need for more than 8 to 9 months to put the IY-TCM strategies into practice. Furthermore, the mean pre-assessment scores on teacher's efficacy were high in the present study, which suggest little room for improvement in teacher's efficacy. In the Sørlie et al. (2016) study, the mean pre-intervention scores for collective efficacy ranged between 55.0 and 57.8, whereas the mean pre-intervention scores in the present study were 60.2 and 60.4 in the IY-TCM and the comparison group, respectively. Given that the upper limits of the measure may have been are reached, a ceiling effect may have occurred, and discriminating between the behaviours of teachers within the upper range have been difficult (Taylor, 2010). For future evaluations of teacher's behaviour after the IY TCM program, an alternative would be to use other measures that may demonstrate a larger degree of differentiation in teacher

behaviours, e.g. measurements that target better teacher behaviour (discrimination for high performers) and that are more sensitive to change or growth from the IY TCM program.

No positive intervention effect was found on the Classroom Environment Scale in the present study. In a recent study by Murray et al. (2017), a positive effect on the classroom climate was found 1 year after the IY-TCM program ($d = 0.45$). In the Murray study, the classroom climate was assessed using the Classroom Assessment Scoring System (Pianta, La Paro, & Hamre, 2008), which classifies the quality of classroom interactions according to three overarching domains, e.g., emotional support, classroom organization, and instructional support (Westergård, Ertesvåg, & Rafaelsen, 2018). In contrast, the Classroom Environment Scale by Moos and Trickett (1974) assesses the quality of general learning conditions in the classroom. Hence, the two measurements may capture different elements of the classroom environment. As cited, in a teacher sample within the same study cohort as in the present study, positive effects on teacher-student conflict and closeness were revealed ($d_w = 0.15 - 0.22$) (Aasheim, Drugli, et al., 2018). Taken together, these findings may suggest that teachers in the present study did in fact experience some advantageous changes in their classroom interactions with students.

Strengths and limitations

This study has some limitations that should be pointed out. First, a randomized controlled trial would have been the preferred design for the study. Due to practical obstacles related to the recruitment of schools, a quasi-experimental pre-post design with continuous enrolment of intervention and comparison schools was chosen. The study was dependent on the presence of qualified IY group leaders in municipalities with participating schools; therefore, recruitment to the intervention group had to be carried out in these municipalities. Further, since extensive predefined criteria for program implementation had to be fulfilled before study inclusion, the schools had to apply to IY Norway to prove they met these criteria

before program implementation, and to be included in the study. Thus, the intervention group may be self-selected, which may have affected our results. A strength of the study is that the implementation of the intervention was naturalistic, carried out under real-world conditions, and incorporated into routine educational practice by regular school teachers.

Second, as the Norwegian Directorate of Health covered the expenses of organizing curriculums, organizing groups, and training group leaders, the agency wanted clear boundaries between the implementation of IY-TCM in Norway and its research project. This was in order to facilitate independence between research and implementation. As a consequence, the implementation process was in the hands of the local municipalities involved. Teacher-reported fidelity information was given through fidelity checklists. Hence, access to these checklists or other valid data from the implementation process was problematic due for practical and ethical reasons. Because of the lack of data on fidelity and implementation, we cannot know for certain whether the IY-TCM program was delivered in a manner that was inferior to that required by the program manual. Regardless, the mentors who supervised the group leaders throughout the data collection period did not detect any serious discrepancies in the way the program was delivered.

Third, students and teachers from 21 intervention and 23 comparison schools constitute the entire study sample. The power calculations for this study were originally based on the number of randomized students included, not the number of teachers. The sample size for students was large (n >1500), and thus the power to detect relatively small effects was sufficient. However, the sample size of included teachers was much smaller (n <210). The variation in teacher-reported outcomes seems to be small, and therefore the power to detect group differences in pre-post changes on teacher-reported outcomes may be limited. Finally, the reliability of the sub-scales Severe Problem Behaviour in the Classroom and for Severe Problem Behaviour in the School Environment was inadequate. Collectively, the measures

used were not designed specifically to capture the core skills taught in the IY-TCM program and might have lacked sufficient sensitivity to capture changes in teachers' behaviour management practices.

Implications for practice and research

Our findings have implications for both current practice and future research. An 8 to 9 months implementation of the IY-TCM program given as a universal preventive intervention among all teachers of first- to third-grade, may so far seem insufficient to change teacher behaviour. Changes in teacher behaviour through interventions in regular school settings may take longer to foster than those achieved in disadvantageous or at-risk settings. Teachers in this study may therefore have needed more than 8 to 9 months to put IY-TCM strategies into practice. In order to produce more convincing outcomes in teacher behaviour, school-wide preventive interventions may need to be implemented more consistently over a longer period of time than provided in the present study (Weare & Nind, 2011). Findings in this study also suggests that teachers may have had strong classroom management skills prior to the intervention. This, taken together with the overall low level of problem behaviour in this student sample, may explain lack of main effects.

Some of the components taught in IY-TCM program have been assessed as more valuable by teachers, such as strategies to strengthen relationships with students (e.g., praise, encouragement, and positive attention), and coaching to promote students' social and emotional skills, as well as behaviour planning for students (Murray et al., 2017; Nye et al., 2018; Reinke et al., 2018). To determine whether these components also have been easier to adopt and put into practice, and hence, had a greater impact both on student and teacher behaviour, have been suggested as a recommended area for future research. Targeting these components and provide them as shorter in-service trainings to all teachers or to beginning

teachers in schools, could increase program feasibility and focus for schools wanting to target preventive areas of need within their school (Murray et al., 2017).

No long-term follow-up was completed in this study; hence, multiple assessment points within long-term follow-up may be critical to more fully capture the impact of the IY-TCM program implemented as a universal preventive intervention in regular school settings. Measures that are theoretically more adjusted to the IY-TCM program and have demonstrated sensitivity to the IY-TCM program in previous research, should be applied in future research. Another area for future research is to identify barriers to implementation and features of successful implementation, such as using process evaluation to identify moderating effects of implementation quality on intervention outcomes. In order to facilitate the acceptability and appropriateness of the IY-TCM program in the Norwegian culture, the IY-TCM program book Webster-Stratton and Sjøbu (2018), which are provided as a part of the IY-TCM training, has been recently updated. Information about program implementation that is more align to the Norwegian school context have been included in the book.

References

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

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

Baker-Henningham, H., & Walker, S. (2018). Effect of transporting an evidence-based, violence prevention intervention to Jamaican preschools on teacher and class-wide child behaviour: A cluster randomised trial. *Global Mental Health, 5*, E7. https://doi.org/10.1017/gmh.2017.29

Baker-Henningham, H., Walker, S., Powell, C., & Gardner, J. M. (2009). A pilot study of the Incredible Years teacher training programme and a curriculum unit on social and emotional skills in community pre-schools in Jamaica. *Child: Care, Health and Development, 35*, 624-631. http://dx.doi.org/10.1111/j.1365-2214.2009.00964.x

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York, NY: Freeman.

Bandura, A., & Estes, W. K. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*, 191-215. http://dx.doi.org/10.1037/0033-295X.84.2.191

Carlson, J. S., Tiret, H. B., Bender, S. L., & Benson, L. (2011). The influence of group training in the Incredible Years Teacher Classroom Management program on

preschool teachers' classroom management strategies. *Journal of Applied School Psychology, 27*, 134-154. http://dx.doi.org/10.1080/15377903.2011.565277

Conroy, M., Sutherland, K., Haydon, T., Stormont, M., & Harmon, J. (2009). Preventing and ameliorating young children's chronic problem behaviors: An ecological classroom-based approach. *Psychology in the Schools, 46*, 3-17. http://dx.doi.org/10.1002/pits.20350

Darling-Hammond, L., Wei, R. C., Andree, A., Richardson, N., & Orphanos, S. (2009). *Professional learning in the learning profession: A status report on teacher development in the United States and abroad*. Washington, DC Retrieved from https://learningforward.org/docs/default-source/pdf/nsdcstudy2009.pdf.

Downer, J., Sabol, T. J., & Hamre, B. (2010). Teacher-child interactions in the classroom: Toward a theory of within- and cross-domain links to children's developmental outcomes. *Early Education and Development, 21*, 699-723. https://doi.org/10.1080/10409289.2010.497453

Ertesvåg, S. K. (2011). Measuring authoritative teaching. *Teaching and Teacher Education, 27*, 51-61. https://doi.org/10.1016/j.tate.2010.07.002

Evers, A., Hagemeister, C., Høstmælingen, A., Lindley, P., Muñiz, J., & Sjöberg, A. (2013). *EFPA review model for the description and evaluation of psychological and educational tests*. Retrieved from http://www.efpa.eu/professional-development/assessment.

Evertson, C., & Weinstein, C. (2006). *Handbook of classroom management. Research, Practice, and Contemporary Issues* doi:https://doi.org/10.4324/9780203874783

Feingold, A. (2013). A regression framework for effect size assessments in longitudinal modeling of group differences. *Review of General Psychology, 17*, 111-121. http://dx.doi.org/10.1037/a0030048

Ford, T., Goodman, R., & Meltzer, H. (2003). The British child and adolescent mental health

survey 1999: The prevalence of DSM-IV disorders. *Journal of the American Academy*

of Child & Adolescent Psychiatry, 42, 1203-1211. https://doi.org/10.1097/00004583-

200310000-00011

Goddard, R. D. (2002). A theoretical and empirical analysis of the measurement of collective

efficacy: The development of a short form. *Educational and Psychological*

Measurement, 62, 97-110. https://doi.org/10.1177/0013164402062001007

Goddard, R. D., Hoy, W. K., & Hoy, A. W. (2000). Collective teacher efficacy: Its meaning,

measure, and impact on student achievement. *American Educational Research*

Journal, 37, 479-507. http://dx.doi.org/doi:10.3102/00028312037002479

Goddard, R. D., Hoy, W. K., & Hoy, A. W. (2004). Collective efficacy beliefs: Theoretical

developments, empirical evidence, and future directions. *Educational Researcher, 33*,

3-13. https://doi.org/10.3102/0013189X033003003

Grey, J., & Sime, N. (1989). *Discipline in schools. Report of the committee of enquiry chaired*

by Lord Elton. (The Elton Report (1989)). Retrieved from

http://www.educationengland.org.uk/documents/elton/elton1989.html.

Hamre, B. K., & Pianta, R. C. (2005). Can instructional and emotional support in the first-

grade classroom make a difference for children at risk of school failure? *Child*

Development, 76, 949-967. http://dx.doi.org/doi:10.1111/j.1467-8624.2005.00889.x

Hamre, B. K., & Pianta, R. C. (2010). Classroom environments and developmental processes:

Conceptualization and measurement. In J. L. Meece & J. S. Eccles (Eds.), *Handbook*

of research on schools, schooling, and human development (pp. 25-41). New York,

NY: Routledge.

Heiervang, E., Stormark, K. M., Lundervold, A. J., Heimann, M., Goodman, R., Posserud,

M.-B., . . . Gillberg, C. (2007). Psychiatric disorders in Norwegian 8- to 10-year-olds:

An epidemiological survey of prevalence, risk factors, and service use. *Journal of the American Academy of Child & Adolescent Psychiatry, 46*, 438-447. http://dx.doi.org/10.1097/chi.0b013e31803062bf

Hickey, G., McGilloway, S., Hyland, L., Leckey, Y., Kelly, P., Bywater, T., . . . O'Neill, D. (2017). Exploring the effects of a universal classroom management training programme on teacher and child behaviour: A group randomised controlled trial and cost analysis. *Journal of Early Childhood Research, 15*, 174-194. https://doi.org/10.1177/1476718X15579747

Hutchings, J., Daley, D., Jones, K., Martin, P., & Gwyn, R. (2007). Early results from developing and researching the Webster-Stratton Incredible Years Teacher Classroom Management training programme in North West Wales. *Journal of Children's Services, 2(3)*, 15-26. http://dx.doi.org/10.1108/17466660200700023

Hutchings, J., Martin-Forbes, P., Daley, D., & Williams, M. E. (2013). A randomized controlled trial of the impact of a teacher classroom management program on the classroom behavior of children with and without behavior problems. *Journal of School Psychology, 51*, 571-585. http://dx.doi.org/10.1016/j.jsp.2013.08.001

Jennings, P. A., & Greenberg, M. T. (2009). The prosocial classroom: Teacher social and emotional competence in relation to student and classroom outcomes. *Review of Educational Research, 79*, 491-525. https://doi.org/10.3102/0034654308325693

Kirkhaug, B., Drugli, M. B., Handegård, B.-H., Lydersen, S., Aasheim, M., & Fossum, S. (2016). Does the Incredible Years Teacher Classroom Management Training programme have positive effects for young children exhibiting severe externalizing problems in school?: A quasi-experimental pre-post study. *BMC Psychiatry, 16*. http://dx.doi.org/10.1186/s12888-016-1077-1

Kirkhaug, B., Drugli, M. B., Mørch, W.-T., & Handegård, B.-H. (2012). Teacher report of

children's problem behavior on the Sutter-Eyberg Student Behavior Inventory-Revised

(SESBI-R) in a Norwegian sample of preschool and school children. *Scandinavian

Journal of Educational Research, 56*, 139-153.

http://dx.doi.org/10.1080/00313831.2011.568672

Kjøbli, J., & Sørlie, M. A. (2008). School outcomes of a community-wide intervention model

aimed at preventing problem behavior. *Scandinavian Journal of Psychology, 49*, 365-

375. https://doi.org/10.1111/j.1467-9450.2008.00648.x

Kroes, M., Kalff, A. C., Kessels, A. G. H., Steyaert, J., Feron, F. J. M., Van Someren, A. J.

W. G. M., . . . Vles, J. S. H. (2001). Child psychiatric diagnoses in a population of

Dutch schoolchildren aged 6 to 8 years. *Journal of the American Academy of Child &

Adolescent Psychiatry, 40*, 1401-1409. https://doi.org/10.1097/00004583-200112000-

00010

Larsson, B., & Drugli, M. B. (2011). School competence and emotional/behavioral problems

among Norwegian school children as rated by teachers on the Teacher Report Form.

Scandinavian Journal of Psychology, 52, 553-559. https://doi.org/10.1111/j.1467-

9450.2011.00889.x

Leckey, Y., Hyland, L., Hickey, G., Lodge, A., Kelly, P., Bywater, T., . . . McGilloway, S.

(2016). A mixed-methods evaluation of the longer-term implementation and utility of

a teacher classroom management training programme in Irish primary schools. *Irish

Educational Studies, 35*, 35-55. https://doi.org/10.1080/03323315.2016.1147974

Martin, P. A., Daley, D., Hutchings, J., Jones, K., Eames, C., & Whitaker, C. J. (2010). The

Teacher-Pupil Observation Tool (T-POT): Development and testing of a new

classroom observation measure. *School Psychology International, 31*, 229-249.

https://doi.org/10.1177/0143034310362040

McGilloway, S., Hyland, L., Ni Mhaille, G., Lodge, A., O'Neill, D., Kelly, P., . . . Donnelly, M. (2010). *Positive classrooms, positive children. A randomised controlled trial to investigate the effectiveness of the Incredible Years Teacher Classroom Management programme in an Irish context (short-term outcomes)*. Dublin, IE: Archways.

McGrath, K. F., & Van Bergen, P. (2015). Who, when, why and to what end? Students at risk of negative student-teacher relationships and their outcomes. *Educational Research Review, 14*, 1-17. http://dx.doi.org/10.1016/j.edurev.2014.12.001

Merikangas, K. R., He, J.-P., Brody, D., Fisher, P. W., Bourdon, K., & Koretz, D. S. (2010). Prevalence and treatment of mental disorders among US children in the 2001-2004 NHANES. *Pediatrics, 125*, 75-81. https://doi.org/10.1542/peds.2008-2598

Moffitt, T. E., & Scott, S. (2009). Conduct disorders of childhood and adolescence. In M. Rutter, D. V. Bishop, D. S. Pine, S. Scott, J. Stevenson, E. Taylor, & A. Thapar (Eds.), Rutter's child and adolescent psychiatry (pp. 543-564). http://dx.doi.org/10.1002/9781444300895.ch35

Moos, R. H., & Trickett, E. J. (1974). *The classroom environment scale*. Los Angeles, CA: Consulting Psychology Press.

Murray, D. W., Rabiner, D. L., Kuhn, L., Pan, Y., & Sabet, R. F. (2017). Investigating teacher and student effects of the Incredible Years Classroom Management program in early elementary school. *Journal of School Psychology*. https://doi.org/10.1016/j.jsp.2017.10.004

Nye, E., Melendez-Torres, G. J., & Gardner, F. (2018). Mixed methods systematic review on effectiveness and experiences of the Incredible Years Teacher Classroom Management programme. *Review of Education*. https://doi.org/10.1002/rev3.3145

Nygård, G. (2014). *Facts about education in Norway 2016- key figures 2014*. Retrieved from

https://www.ssb.no/en/utdanning/artikler-og-

publikasjoner/_attachment/253129?_ts=153891d2918.

Odgers, C. L., Moffitt, T. E., Broadbent, J. M., Dickson, N., Hancox, R. J., Harrington, H., . .

. Caspi, A. (2008). Female and male antisocial trajectories: From childhood origins to

adult outcomes. *Development and Psychopathology, 20*, 673-716.

http://dx.doi.org/10.1017/S0954579408000333

Ogden, T. (1998). *Elevatferd og læringsmiljø: Læreres erfaringer med og syn på elevatferd

og læringsmiljø i grunnskolen*. Retrieved from

https://www.regjeringen.no/no/dokumenter/elevatferd-og-laringsmiljo/id105365/.

Oliver, R. M., Wehby, J. H., & Reschly, D. J. (2011). Teacher classroom management

practices: Effects on disruptive or aggressive student behavior. *Campbell Systematic

Reviews, 4*, 1-55. https://doi.org/10.4073/csr.2011.4

Pianta, R. C., La Paro, K. M., & Hamre, B. K. (2008). *Classroom Assessment Scoring

System™: Manual K-3*. Baltimore, MD: Paul H Brookes Publishing.

Reinke, W. M., & Herman, K. C. (2002). Creating school environments that deter antisocial

behaviors in youth. *Psychology in the Schools, 39*, 549-559.

http://dx.doi.org/10.1002/pits.10048

Reinke, W. M., Herman, K. C., & Dong, N. (2018). The Incredible Years Teacher Classroom

Management program: Outcomes from a group randomized trial. *Prevention Science,

19*, 1043-1054. https://doi.org/10.1007/s11121-018-0932-3

Sabol, T. J., & Pianta, R. C. (2012). Recent trends in research on teacher-child relationships.

Attachment & Human Development, 14, 213-231.

http://dx.doi.org/10.1080/14616734.2012.672262

Simonsen, B., Fairbanks, S., Briesch, A., Myers, D., & Sugai, G. (2008). Evidence-based practices in classroom management: Considerations for research to practice. *Education & Treatment of Children, 31*, 351-380.

Skaalvik, E. M., & Skaalvik, S. (2010). Teacher self-efficacy and teacher burnout: A study of relations. *Teaching and Teacher Education, 26*, 1059-1069. https://doi.org/10.1016/j.tate.2009.11.001

Sørlie, M. A., & Ogden, T. (2007). Immediate impacts of PALS: A school-wide multi-level programme targeting behaviour problems in elementary school. *Scandinavian Journal of Educational Research, 51*, 471-492. http://dx.doi.org/10.1080/00313830701576581

Sørlie, M. A., & Ogden, T. (2015). School-Wide Positive Behavior Support-Norway: Impacts on problem behavior and classroom climate. *International Journal of School & Educational Psychology, 3*, 202-217. http://dx.doi.org/10.1080/21683603.2015.1060912

Sørlie, M. A., Ogden, T., & Olseth, A. R. (2015). Preventing problem behavior in school through school-wide staff empowerment: Intervention outcomes. *World Journal of Educational Research, 2*. http://dx.doi.org/10.22158/wjer.v2n2p117

Sørlie, M. A., Ogden, T., & Olseth, A. R. (2016). Examining teacher outcomes of the School-Wide Positive Behavior Support model in Norway. Perceived efficacy and behavior management. *SAGE Open, 6*, 1-13. http://dx.doi.org/10.1177/2158244016651914

Taylor, T. H. (2010). Ceiling Effect. In N. J. Salkind (Ed.), Encyclopedia of Research Design (pp. 133-134). Thousand Oaks, CA: SAGE Publications. Retrieved from http://sk.sagepub.com/reference/researchdesign.

Tschannen-Moran, M., & Hoy, A. W. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education, 17*, 783-805. https://doi.org/10.1016/S0742-051X(01)00036-1

Vaaland, G. S. (2016). *Pupil aggressiveness, teacher, authority, and disruptive classroom behavior.* (PhD Thesis, University of Stavanger). Retrieved from http://hdl.handle.net/11250/2425272

Weare, K., & Nind, M. (2011). Mental health promotion and problem prevention in schools: What does the evidence say? *Health Promotion International, 26*, i29-i69. https://doi.org/10.1093/heapro/dar075

Webster-Stratton, C. (2012). *Incredible teachers: Nurturing children's social, emotional, and academic competence*. Seattle, WA: Incredible Years.

Webster-Stratton, C. (2018). Teacher Strategies Questionnaire. *Measures and Forms for Incredible Years Group Leaders.* Retrieved from http://www.incredibleyears.com/resources/gl/measures-and-forms/

Webster-Stratton, C., & Okstad, K. A. (2005). *Hvordan fremme sosial og emosjonell kompetanse hos barn*. Oslo, NO: Gyldendal akademisk.

Webster-Stratton, C., Reid, M. J., & Hammond, M. (2001). Preventing conduct problems, promoting social competence: A parent and teacher training partnership in Head Start. *Journal of Clinical Child & Adolescent Psychology, 30*, 283-302. http://dx.doi.org/10.1207/S15374424JCCP3003_2

Webster-Stratton, C., Reid, M. J., & Hammond, M. (2004). Treating children with early-onset conduct problems: Intervention outcomes for parent, child, and teacher training. *Journal of Clinical Child & Adolescent Psychology, 33*, 105-124. http://dx.doi.org/10.1207/S15374424JCCP3301_11

Webster-Stratton, C., Reid, M. J., & Stoolmiller, M. (2008). Preventing conduct problems and improving school readiness: Evaluation of the Incredible Years teacher and child training programs in high-risk schools. *Journal of Child Psychology and Psychiatry,*

and Allied Disciplines, 49, 471–488. http://dx.doi.org/10.1111/j.1469-7610.2007.01861.x

Webster-Stratton, C., Reinke, W. M., Herman, K. C., & Newcomer, L. L. (2011). The Incredible Years Teacher Classroom Management training: The methods and principles that support fidelity of training delivery. *School Psychology Review, 40*, 509-529.

Webster-Stratton, C., & Sjøbu, A. (2018). *Utrolige lærere: Hvordan fremme barns sosiale, emosjonelle og faglige ferdigheter i skole og barnehage*. Oslo, NO: Gyldendal.

Westergård, E., Ertesvåg, S. K., & Rafaelsen, F. (2018). A preliminary validity of the classroom assessment scoring system in Norwegian lower-secondary schools. *Scandinavian Journal of Educational Research*, 1-19. https://doi.org/10.1080/00313831.2017.1415964

Wichstrøm, L., Berg-Nielsen, T. S., Angold, A., Egger, H. L., Solheim, E., & Sveen, T. H. (2012). Prevalence of psychiatric disorders in preschoolers. *Journal of Child Psychology and Psychiatry, 53*, 695-705. https://doi.org/10.1111/j.1469-7610.2011.02514.x

Williford, A. P., & Shelton, T. L. (2008). Using mental health consultation to decrease disruptive behaviors in preschoolers: Adapting an empirically-supported intervention. *Journal of Child Psychology and Psychiatry, 49*, 191-200. http://dx.doi.org/10.1111/j.1469-7610.2007.01839.x