Article title:

Teaching Classroom Management - a potential public health intervention?

Abstract

Purpose: We explore the feasibility of a classroom management course as a public health intervention. Improved socio-emotional skills may boost children's developmental and academic trajectory, while the costs of behaviour problems are enormous for schools with considerable impact on others' well-being.

Method: 40 teachers attended the Incredible Years Teacher Classroom Management (TCM) intervention in groups of 10. Afterwards teachers attended focus groups and semi-structured interviews were completed with headteachers to explore whether TCM was feasible, relevant and useful, research processes were acceptable, and if it influenced teachers' practice and pupils. Teachers completed standardised questionnaires about their professional self-efficacy, burnout and well-being before and after attendance.

Findings: 37/40 teachers completed the course. Teachers valued sharing experiences, the support of colleagues in the group and time out to reflect on practice and rehearse new techniques. Most teachers reported that they applied the strategies with good effect in their classrooms. Teachers' questionnaires suggested an improvement in their self-efficacy in relation to classroom management (p=0.03); other scales changed in the predicted direction but did not reach statistical significance.

Research limitations/implications: Although preliminary and small, these feasibility study findings suggest that it was worthwhile proceeding to a definitive randomised controlled trial (RCT).

Practical and social implications: Should the RCT demonstrate effectiveness, then the intervention is an obvious candidate for implementation as a whole school approach.

Originality / value: Successful intervention with one teacher potentially benefits every child that they subsequently teach and may increase the inclusion of socio-economically deprived children living in challenging circumstances in mainstream education.

Keywords: Feasibility, classroom management, behaviour, mental health, well-being, teacher training, mixed methods

Article Classification: Research Paper

Introduction

Prevalence estimates of any psychiatric disorder for the school-age population are between 3-18% (Costello *et al.*, 2005) according to various editions of the Diagnostic and Statistical Manual or the International Classification of Diseases, which seems to have increased over the past 50 years (Collishaw *et al.*, 2004; Rutter and Smith, 1995). Conduct disorder, or disruptive or antisocial behaviour that leads to impaired ability to function was the commonest disorder in two large population-based surveys of British schools (5% in both surveys), while nearly half also met diagnostic criteria when followed up three years later (Macdiarmid et al). The societal costs of antisocial behaviour (or that which challenges societal norms) are large and rise with increasing difficulties, but costs do not only emanate from those with the highest level of problems who would meet diagnostic criteria for conduct disorder (Scott *et al.*, 2001a).

Longstanding evidence suggests a link between behavioural difficulties and academic underachievement (Rourke, 1988) and a variety of health and social problems through adolescence into adulthood, such as educational and occupational failure, criminality, substance misuse and poor mental health (Ramey and Ramey, 1998). Teachers report a lack of training in, and difficulties with, managing disruptive behaviour (or behaviours that impede their ability to teach), which is associated with stress, burnout and exit from the profession (Kokkinos, 2007; Alliance for Excellent Education, 2005). Jennings and Greenberg (2009) proposed a 'burnout cascade', whereby difficulties with behavioural management lead to a decreased sense of self-efficacy that results in negative consequences for their relationship with the children, and a more reactive and more negative classroom environment. Poor teacher-pupil relationships adversely influence children's mental health in later life (Lang *et al.*, 2013) and can lead to poor academic attainment (Cadima *et al.*, 2010). Stressed teachers have more negative classroom management styles and when supported with behaviour management they report reduced emotional difficulties and decreased disruptive behaviour among their pupils (McGilloway *et al.*, 2011). Teachers with less developed classroom management skills have higher reported overall levels of child classroom aggression, peer rejection and exclusion (Kellam *et al.*, 1998). In contrast, teachers with highly developed classroom management skills may obtain better results both academically and socially, and may reverse the 'burnout cascade' to the benefit of themselves and their pupils (Webster-Stratton *et al.*, 2008).

Whether improved teacher self-efficacy leads to improved child mental health and attainment has yet to be convincingly demonstrated, although previous trials of the Incredible Years Teacher

Comment [HL1]: This is still under review as in the references so apologies, cannot provide a year

Comment [T2]: Year?

Classroom Management (TCM) course (described in detail in the methods section) provide tantalising hints that it may (Hutchings *et al.*, 2007; McGilloway *et al.*, 2011, Hutchings *et al.*, 2013).

The Incredible Years (IY) series comprises three interlinked programmes for parents, teachers and children that aim to promote children's social, emotional and academic competence (Webster-Stratton, 2011). They were initially developed to be used together as an indicated intervention for children with conduct disorder. The parent-based intervention is widely disseminated (Reid *et al.*, 2007; Scott *et al.*, 2001b; Gardner *et al.*, 2006), but intervention with parents rarely improves school-based difficulties. Although studies suggest that parents living in high levels of socio-economic deprivation respond to parenting interventions as well as more affluent peers if they are able to attend, they are less likely to engage given the multiple stressors that they face, leaving the most vulnerable children less likely to benefit (Furlong *et al.*, 2012).

The parallel programme, the Teacher Classroom Management (TCM) programme, aims to hone teachers' skills to promote prosocial behaviour and proactively manage disruption in the classroom. Little research has studied the effectiveness of TCM in isolation from other interventions, and the studies that have taken place have focussed on children aged up to 7 years. Hutchings *et al.* (2007) trained 23 teachers in TCM who subsequently reported an improvement in pupil conduct. Observations by researchers blind to intervention status in 21 classrooms suggested that teachers trained in TCM used clearer instructions and experienced higher levels of compliance from pupils than their untrained colleagues. This led to an RCT that involved 12 classes from 11 primary schools and 107 children aged 3-7 years (Hutchings *et al.*, 2013). Independent classroom observations showed a significant reduction in classroom off-task behaviour and negative interactions between teachers and target children (who were usually seen as the most difficult in a class). Other studies have shown an improvement in teacher-reported pupil behaviours in Jamaica (Baker-Henningham *et al.*, 2009), and Ireland (McGilloway *et al.*, 2011) and more engagement in class activities (Reid *et al.*, 2007). The trials suggest TCM is sufficiently intense to change teachers' behaviour, and may improve behaviour for some children, but not enough is known about universal classroom effects, whether change is sustained in the long term and whether TCM may be effective with older children. The TCM programme was initially designed to work with children aged 3-8 years. The parallel parenting programme was also initially restricted to the same age group, but is now recommended for children aged 2-12 years without major adaptation. Practitioners with high levels of experience and skill in delivering TCM in the Welsh and American IY teams consider that the principles and strategies are relevant to all primary age children and do not anticipate widely differing impacts on different year

groups, however this has not been tested for the TCM course among children older than 7 years of age.

Effective intervention with teachers to reduce emotional and behavioural difficulties among children is potentially highly cost-efficient compared to one-to-one or group interventions with children, or parents, as teachers can apply the learning for all subsequent classes and pupils that they teach. If effective at improving children's and teachers' mental health, the potential cost savings across the health, education, social care and criminal justice systems are enormous (Snell *et al.*, 2013). This paper reports a study that explored the feasibility of a rigorous, definitive cluster randomised controlled trial of TCM as a public health intervention to strengthen teachers' classroom management for the benefit of the children they teach and to reduce their own levels of stress and burnout. MRC guidance (Craig *et al.* 2008) on developing and evaluating complex interventions suggests that feasibility studies are vital to explore potential issues, such as the acceptability of interventions and to optimise research processes.

Aims

The current study aimed to test the feasibility and acceptability of the TCM programme to teachers and head teachers, and to explore teachers' experience and perceptions of the utility of the TCM approach to their teaching practice and their self-reported well-being at work. More specifically to:

- Confirm the feasibility of recruiting schools to attend the TCM programme, and of schools releasing their teachers to attend the intervention training sessions.
- Assess teacher satisfaction and experience of TCM by qualitative (focus group and interviews) and quantitative (questionnaire) methods.

The feasibility study also provided an opportunity to give the educational professionals (group leaders) delivering the TCM programme the opportunity to refine their skills in delivery to groups of teachers before proceeding to a definitive RCT.

Methods

Ethical approval was granted by the Peninsula College of Medicine and Dentistry Research Ethics Committee.

Sample

Headteachers of state funded primary schools in Southwest England were approached through conferences and publicity organised by local Associations of Headteachers. TCM group leaders and steering committee members also advised on schools to approach based on previous receptivity to other interventions or programmes. Between two to four teachers from 16 schools attended the course, with places allocated on a 'first come, first served' basis. As the TCM manual suggested that 10 teachers was optimum for a group intervention; two courses (each including 10 participants) were delivered per year during the two year feasibility study (n = 40).

The selection of teachers from within each school was decided by the head. In order to extend the work of previous studies, which targeted children up to age 7, places were open to teachers from any primary school year group, and participants were teaching classes that ranged from Reception (age 5) to Year 5 (age 10) (see Table 1). As is typical for the teaching profession, most teachers recruited were women, but the sample had a broad range of teaching experience, and included teachers in their newly qualified teacher year as well as special educational needs co-ordinators (see Table 1).

Insert Table 1 here

Procedure

The flow of participants through the study is illustrated in Figure 1.

Insert Figure 1 here

Funding for supply cover whilst teachers attended the course was provided. Forty teachers were invited to attend TCM training one day per month for six months, and 37 teachers completed the course. Of the three teachers who did not complete the course, one left the teaching profession, one chose to leave the course after two sessions feeling it was too basic, and one attended three sessions but was then unable to attend further sessions due to staffing issues.

The course was delivered by six TCM group leaders who worked in teams of three. Group leaders were educational and mental health practitioners, all of whom were qualified teachers and who received training and supervision throughout from the programme developer, Professor Carolyn Webster Stratton, via Skype from Seattle.

Intervention

The TCM programme draws on cognitive social learning theory, particularly Patterson's (1982) theories about how coercive cycles of interaction between adults and children reinforce unwanted behaviour patterns, Bandura's (1977) ideas about the importance of modelling and self-efficacy, and

5

Piaget's (1962) developmental interactive learning methods. In addition, it also incorporates strategies for challenging angry, negative, and depressive "self-talk" or internal dialogue, drawn from cognitive behavioural approaches.

The group based training targets teachers' effective use of attention, social and emotion coaching, praise and encouragement, incentives for addressing difficult behaviour problems, use of proactive classroom management strategies for managing misbehaviour, promoting positive relationships with difficult students, strengthening social skills, emotional regulation and problem solving in the classroom, and strengthening teachers' collaboration and positive communications with parents. The training is a collaborative, self-reflective and experiential learning process, whereby teachers share ideas, problem solve issues and practice strategies together (Webster-Stratton, 2011).

TCM is highly manualised, with clear criteria for training, supervision and fidelity to model. It is, however, designed to allow "adaptation with fidelity" so that group leaders can select from a range of techniques in order to deliver the prescribed curriculum in the manner most acceptable to their context (Webster-Stratton *et al.*, 2011).

Qualitative data collection

Teachers were invited to attend a focus group approximately one month after the end of the course, with groupings remaining the same as the training courses. 31 teachers attended focus groups, which were led by a researcher-facilitator, with an observer also present. The groups ran for a maximum of one and a half hours with clear ground-rules (including confidentiality) and structure. The topic guide (available from authors on request) included questions about course content, style and mode of delivery, theory, practical skills, materials, group learning, arrangements for attending and feasibility, dissemination within their school, and other programmes used within schools. It also included questions about their experience of the research process including recruitment and questionnaires, and suggestions for improvements to inform the main trial. Each group concluded with a period of summary and reflection and participants had the opportunity to discuss the focus group with a researcher via email should they wish, though none chose to do so.

Headteachers were invited to participate in a semi-structured interview over the telephone after their staff member had completed the course. All the headteachers from participating schools were interviewed. Interviews lasted a maximum of 45 minutes and followed a topic guide (available from authors on request) that included background information about the school, feedback from teachers

Deleted: academic, persistence and

Deleted: ,

Deleted: and

Deleted: a

about the TCM course and feasibility of attendance, and how TCM compares with any other similar programmes within their school.

Qualitative data analysis

Focus group discussions and headteacher interviews were audio-recorded, transcribed and anonymised. Data were stored using Nvivo 9 software. Tables 2 and 3 illustrate the thematic frameworks used to code the teacher focus groups and headteacher interviews; the coding frameworks were shaped by the topic guides but also developed iteratively to include emergent themes.

Insert tables 2 and 3 here

Analysis drew on understandings of social learning (Bandura, 1977) and was approached from a subtle realist perspective, identifying experiences as the lived 'reality' of participants (Hammersley, 2002) and exploring the ways in which participants account for their experiences within the context of the study and their own schools (Greenhalgh *et al.*, 2009). The Framework approach (Richie and Lewis, 2008) was used to manage data and aid the systematic description and summary of key themes, patterns and links in the data. This allowed the researchers to move between levels of abstraction during analysis, while also displaying the relevant data sources. Thematic analysis of interview and focus group data was framed by the research questions, but also allowed for more inductive analysis whereby emergent themes were identified to explain the experience and views of teachers and headteachers. In the analysis, 'keyness' of themes did not necessarily relate to incidence of occurrence but to whether a theme captured information relevant to the research questions (Braun and Clarke, 2006), in this case relating to a range of experiences and views about behaviour and context relevant to the TCM intervention.

Quantitative data collection

Three measures were administered to teachers before (January) and after (July) attending the TCM course that estimated teachers' professional self-efficacy, levels of burnout and psychological distress. The *Teacher Efficacy Scale (Brief Version,* Tschannen-Moran and Woolfolk, 2001) is a 12 item questionnaire that explores a teacher's beliefs in their capability to make a difference to their students' learning and their abilities to engage difficult/unmotivated students. It comprises of three subscales: *Student Engagement, Instructional Strategies* and *Classroom Management* with high scores indicating improvement. Internal consistency was high (Cronbach's alpha =0.81-0.86 for each subscale, 0.90 overall) and validation studies demonstrated positive correlations with other measures of teacher efficacy (r=0.3-0.48) and negative correlations with pupil control (r=-.025) and work alienation (r=-0.31; Tschannen-Moran and Woolfolk, 2001).

The *Maslach Burnout Inventory* (MBI, Maslach *et al.*, 1996) is a 16 item questionnaire widely used to assess burnout in the workplace. Subscales are *Exhaustion*, *Cynicism* and *Professional Efficacy*. Higher scores for *Exhaustion* and *Cynicism* represent more difficulty, whereas higher scores on *Professional Efficacy* are positive. It is the leading measure of occupational burn out and the three factor structure has been replicated in many studies including two with teachers (Brouwers and Tomic, 2000; Greene *et al.*, 2002). It has been validated against colleague and spouse ratings of stress, case load and job satisfaction. Retest stability at one year ranged between 0.60 and 0.67 for the sub-scales (Maslach *et al.*, 1996).

The *Everyday Feeling Questionnaire* (EFQ) (Uher and Goodman, 2010; Mann *et al.*, 2013) uses 10 items to assess psychological distress and wellbeing; a higher score indicates more distress. In a large population sample, the EFQ demonstrated high levels of internal consistency (Cronbach alpha = 0.89) and EFQ scores were highly correlated (r=0.74) with scores on the General Health Questionnaire, an established measure of psychological distress (Uher and Goodman, 2010*).* There were significant and stronger associations between the EFQ and external characteristics than were detected with the General Health Questionnaire. In a clinical sample, internal consistency was also high (Cronbach's alpha=0.90), test –retest reliability was moderate (intraclass coefficient =0.68) and correlations with other measures of depression and anxiety collected by the clinic were high (r=0.72-0.84; Patient Health Questionnaire, General Anxiety Disorder Assessment, Beck Depression Inventory, WHO brief Quality of Life measure; Mann *et al.*, 2013).

Quantitative Analysis

Data were analysed using SPSS 20 and Stata 12.1 software. The mean change on the measures between pre- and post-intervention was estimated with 95% confidence intervals and p-values to quantify evidence against the hypothesis of no true change. A random effects regression model was used to take account of correlation between teachers from the same training group (cluster). The degrees of freedom for the reported confidence intervals and p-values are based on the number of training groups. We also tested whether the team of group leaders or year of training influenced outcome. Only teachers that provide both pre and post data were included in these analyses (n=31-34 depending on the measure, see Table 4).

| Deleted: 2 |

Results

Attendance

For the 37 teachers who completed the course, attendance levels were high with 24 attending all six sessions, 10 attending five sessions and 3 attending four sessions.

Feasibility

Feedback from teachers and heads about the feasibility of schools wanting to access the training in an RCT and in particular, for teachers to be released to attend TCM was positive overall. Arrangements for attendance (i.e. one full day per month over six months) were found to be satisfactory, which was also confirmed by the high levels of attendance, and that only one teacher could not be released for later sessions. Heads and teachers expressed the view that although it can be challenging to release teachers to attend, having all the dates set well in advance was an important facilitator, as was funding for supply cover. Some teachers expressed concern about the impact of their absence on school routines, their pupils, and their workload, but also recognised that 'it is never going to be ideal' and that 'you have to hope that the benefit of doing the course in the future will outweigh... the disruption'. Teachers seemed to value the time and opportunity to practise skills and reflect between monthly sessions:

> 'What is nice about that is that because it spans over quite a long period of time, it is more of an opportunity to see an impact...To be trying things and seeing if specific children have changed in their behaviour due to your responses'.

Some heads also commented that the length of the course and the time between sessions was helpful to embed learning and observe impact within the school.

Acceptability and satisfaction with TCM

Teachers generally liked the collaborative, responsive approach demonstrated by the group leaders and the fact that they used their own experiences as teachers as well as recognising and drawing on the skills of the participants. Teachers were positive about leaders modelling different techniques and about the mixture of delivery methods; video vignettes, role play, discussion, coaching, practising skills. Some teachers expressed a view that the level of delivery was sometimes pitched too low and that they felt there was a 'script' that the leaders had to follow which could have been more flexible. However, some thought that the leaders got the level of delivery just right and others acknowledged the need for balance to meet all needs.

Teachers were positive about the content of the course and recognised a cumulative effect:

> 'I hadn't quite realised what they were talking about at the start…at the time I had not been able to pick it up, so when you went away from the first one it felt like it was nothing new, and then it was after the third one it all kind of started to click and all started to fall into place'.

Different teachers particularly valued different sessions. Teachers talked about the challenges of practising skills within the sessions (for example role play, coaching, puppet work), but also placed great value on the process of seeing the practice, reading the theory behind it and then rehearsing it. They felt that this installed confidence, for them, in the strategy itself and in their ability to incorporate it into their own practice:

> 'I find the puppet thing quite challenging, or the role play, but it was one of the most valuable parts of the course because it is one thing watching it, and it is one thing being told it, and another thing coming out of your own mouth, having to think it and say it…'

> 'It made me face up to something I was quite uncomfortable with…made me think, actually I could do that in my classroom'.

There was recognition from teachers that some of the most difficult aspects of the course could be where they learnt most; 'if it is that challenging then it is really got to be valuable'.

Some teachers felt that some of the course content was targeted at younger pupils (aged 5-7) and would have liked more examples with older year groups. Generally, teachers liked the materials used in the course and felt that it might have been useful to have been given or be able to access more of them to use in their own schools. Teachers gave lots of feedback on the (American) video-clips; many felt they did not fit the English primary school culture and were dated. Some felt that the videos nevertheless had a value in encouraging discussion and seeing the strategies work in 'real life' situations:

> 'Although you could pick the vignettes to pieces - American, not full class and those sorts of things - it is nice to see children's behaviour responding to [a] particular modem of strategies… and that does give you lots of ideas, just watching it happen'.

Teachers identified lots of examples of strategies that they learnt about either from the course content or from sharing experiences and examples with other teachers. Specific strategies included modelling behaviour, praise, coaching, labelling behaviours and feelings, ignoring negative behaviour, greeting children and parents and using rewards, amongst others. Some teachers commented on having seen the positive effect of strategies within their classes, for example changes in children's behaviours, and that this had been noticed by others in their schools such as heads.

Some heads also talked about a direct impact on their own role in behaviour management, as teachers were more likely to successfully manage behaviour within the classroom without coming to them for advice or sending children to them:

> 'A few less troublesome ones sent up to me that is for sure'

Some teachers felt that the TCM course gave them 'licence' to change their practice and felt more confident in using the techniques and sharing them with others knowing that they could point to the theory behind them. Some teachers expressed an increase in their own self-awareness and self-management, having reflected on the way that their own behaviour directly affects children's behaviour, which made them feel calmer and more empowered to choose their response rather than react:

> 'You could be in the classroom, but can still be thinking things through and take a step a back because you have been on a course, whereas before you just had to do something without really thinking is that the right way to manage this? Now you think that child is doing that, I could do this… you are calmer and can manage it in a much more positive way'

Some teachers talked about sharing TCM strategies within their school, either in their own classroom (for example with teaching assistants) or at staff meetings. Most dissemination happened on an informal and ongoing or 'as required' basis, and often involved teachers explaining the approaches, but also included teachers modelling strategies to colleagues through their own practice. Some teachers talked about the greater effectiveness of TCM strategies when they are consistently applied (for example by teaching assistants, other teachers, heads) and that this can be a challenge:

> 'I think that is my worry. I could talk to someone about it, but they feel like we felt on the first day. Why are you telling me this? I don't think that they really do know what I am trying to say, but how can you?'

Two other themes which emerged from the focus groups and interviews in relation to the TCM course were the importance of the group learning situation, and the value of having time to reflect on practice. Teachers valued the opportunity to share experiences and the interactive nature of discussions:

> 'I really value chatting to these guys around the table, not only have I found the content useful and refreshed my understanding…of positive classroom management relating to children, but I picked up loads of little titbits along the way from good practice that other people do'

The way in which the groups were facilitated, the group size and the time for teachers to get to know each other over a longer period of time helped to create a mutually supportive, trusting

environment. This was valued because teachers liked being able to share difficulties in a non-judgemental environment (reducing isolation) and they felt they could try out new techniques, fail and try again:

> 'I think that because we got closer, that it wasn't artificial, we could practice things without feeling that people would laugh at us'

They also valued the chance to share emotions, highlighting the role that group bonding, feelings and emotion have in learning according to social learning theory (Bandura, 1977):

> 'because we talked about it…the relationship that we opened up and made the course much more valuable than any other course'

> 'It probably brought us together as a group. As we laughed… it kind of relaxed us sometimes'

Teachers commented on the value of having time out of the classroom to reflect on their practice, test their own assumptions, think about and discuss theoretical issues related to practice with other professionals, and consolidate existing knowledge.

How teachers were selected to attend

Heads talked about a range of reasons for wanting to take part in the study, including meeting children's, teachers' and whole school needs. Some heads suggested that being part of the study had helped them work towards whole school behaviour goals and further develop policies. Teachers had different experiences of the way in which they were selected from within their school to attend TCM. In some schools, a group of teachers had been offered the opportunity and individuals had put themselves forward; in other schools particular teachers had been asked to attend by the head for varying reasons. There did not appear to be a link between the way that teachers were recruited and their experience of the course (although we were unable to collect detailed views of the teachers about this selection process or those that left the course).

Quantitative outcome measurement

Give the small sample size and the lack of a control group for comparison, conclusions drawn from the quantitative findings can only be tentative. There was evidence of improved teacher efficacy in relation to classroom management (p=0.03), and weak evidence of improved professional efficacy (p=0.07) on the MBI (see Table 5). Surprisingly, the cynicism scale on the MBI showed no change. There were small but not statistically significant changes in the other subscales in the expected

direction (Table 5). There was no evidence at the 5% level that outcomes differed between the two teams of group leaders nor between the two years of training.

Insert Table 5 here

Discussion

We explored the feasibility of TCM as a public health intervention as preparatory work for a five year cluster randomised controlled trial (RCT, Ford et al, 2012). TCM aims to hone teachers' skills in pro-active behaviour management and the promotion of children's socio-emotional development. The tentative evidence gained from the current study supports the previous limited literature regarding the impact of TCM applied in isolation, and suggests that TCM may positively impact on teachers' confidence and skills. The evidence also reflects Bandura's (1977) theory of learning as a social process, as the teachers attached great value to the experience of learning within a group and the importance of sharing ideas, thoughts, concerns and practising skills in a supportive environment. The quantitative data tentatively suggest that the course influenced teacher's self-efficacy, which observational studies and theory suggest should translate to improve mental health for both teachers and children. Findings did not differ significantly between the two years, which may suggest that the group leaders' skills were adequate in the first year. However the small sample size may mean that we lacked power to detect significant differences and the lack of a comparison group means that we cannot tell how response to the quantitative measures might have changed at group level without TCM. The influence of group leader experience and fidelity to the TCM model will be further assessed throughout the definitive trial through the video recording of all sessions and an ongoing supervision and accreditation process. Despite limitations, explored in more depth below, our findings suggest that a large, definitive randomised controlled trial of TCM as a public mental health intervention is warranted. Some teachers suggested that some of the TCM materials and activities were more suited to Key Stage One pupils and were not appropriate for older pupils. The small sample size within the feasibility study meant that it was not possible to compare outcomes between Key Stage One and Key Stage Two teachers, however this will be addressed in the large RCT, which will recruit children aged 4 to 9.

This study is not without limitations. As a feasibility study, it was necessarily small and the small sample size will have impacted upon the power to detect change, although we found evidence that teachers believed that their classroom management skills improved. Secondly, as there was no control group there may be other temporal factors that influence or explain the results, such as time

of the academic year. Follow-up data was collected towards the end of the summer term, when teachers may have felt more positive due to the impending long holiday or conversely, exhausted from the academic year. The sample comprised self-selected heads and the teachers that they nominated, who ranged from the particularly receptive and enthusiastic to some who were struggling with a variety of challenges, either of which may have influenced their experience of the TCM course. The small sample size makes it vulnerable to chance clusters of particular types of individuals or schools, which may have influenced our findings, although the focus groups produced a range of views. Teachers who left the course before it ended did not attend the focus group, so we were unable to explore their, likely more negative, views and experiences of TCM.

This study included qualitative work on methodological issues to inform the future RCT and also teacher's experiences of TCM in combination with quantitative measures, as is increasingly common in health services research. Findings from the feasibility study have made an important contribution to refining the processes within the main RCT, for example, planning welcome meetings with the teachers selected by heads to attend TCM, to ensure that they are properly informed both about the course they will be attending and the research process in which they will be participating. The process for the completion of teacher questionnaires will be changed to allow more time for reflection, and telephone interviews will be carried out (where possible) with any teachers who leave TCM before the end of the course. Some potentially interesting questions emerged from the qualitative data which may be pertinent to the subsequent study, for example exploring whether heads' reasons or motivation for enrolling a particular teacher on the course has any relationship with that teacher's experience of the course, their use and uptake of TCM strategies and the wider impact of TCM on the whole school. Questions or threads that have emerged during the feasibility study will be carried through for exploration within the process evaluation which will be embedded within the main RCT.

Conclusion

This feasibility study demonstrated that head teachers were interested in accessing TCM and were willing to release teachers to attend the course, and that most teachers reported TCM to be of use in their professional development. Funding has been obtained for a RCT to evaluate TCM in 80 schools in Southwest England (STARS, Ford *et al.*, 2012), which will assess effectiveness and cost-effectiveness in relation to child mental health, as well as attainment and teacher mental health. Findings from the qualitative methods used in the feasibility study (teacher focus groups and headteacher telephone interviews) provide a rich seam of contextual information and highlight the

> **Comment [HL3]:** Supporting Teachers and childRen in Schools – happy either for this to be inserted in full, or to remove STARS and leave it as just the reference, whichever you recommend.

> **Comment [T4]:** What does STARS stand for?

importance of social processes on the way in which the intervention is experienced, and these methods will be included as part of a detailed, embedded process evaluation within the main RCT to examine the influence of context on evaluation. The future RCT will address some of the limitations of previous studies by extending the age range of children studied, measuring teacher well-being as well as changes in child behaviour, and following up both children and teachers over a longer (30 month) time period. Should TCM prove to positively influence children's mental health, as training teachers potentially influences all children subsequently taught, it would be an ideal public health intervention that would ideally be suited to implementation as a whole-school approach. Given the high prevalence and persistence of serious and sustained antisocial behaviour, and the plethora of adverse outcomes it predicts, TCM could potentially improve the mental health and well-being of a large number of children with positive effects on their developmental trajectory that are likely to profoundly influence their subsequent life trajectory.

References

Alliance for Excellent Education (2005), *Teacher Attrition: A Costly Loss to the Nation and to the States.* Issue Brief. Washington, D.C.: Alliance for Excellent Education, August 2005. www.all4ed.org/publications/TeacherAttrition.pdf.

Bandura, A. (1977), *Social Learning Theory*, Englewood Cliffs, NJ :Prentice Hall

Baker-Henningham, H., Walker, S., Powell, C. and Meeks Gardner, J. (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*, Vol. 35 No 5, pp. 624-31. doi: 10.1111/j.1365-2214.2009.00964

Braun, V. and Clarke, V. (2006), "Using thematic analysis in psychology", *Qualitative Research in Psychology,* Vol 3, pp. 77-101.

Brouwers, A. and Tomic, W A. (2000), "A longitudinal study of teacher burnout and perceived self-efficacy in classroom management",*Teaching and Teacher Education*, Vol 16, pp. 239-254.

Cadima, J., Leal, T. and Burchinal, M. (2010), "The quality of teacher-student interactions: associations with first graders' academic and behavioural outcomes", *Journal of School Psychology*, Vol. 48, pp. 457–82.

Collishaw, S., Maughan, B., Goodman, R. and Pickles, A. (2004), "Time trends in adolescent mental health", *Journal of Child Psychology and Psychiatry*, Vol. 45, pp. 1350–1362.

Costello, E.J., Egger, H.L. and Angold, A. (2005), "10-Year research update review: The epidemiology of child and adolescent psychiatric disorders: I. Methods and public health burden", *Journal of the American Academy Child and Adolescent Psychiatry*, Vol. 44, pp. 972– 986.

Craig, I., Dieppe, P.,MacIntyre, M., Michie, S., Nazareth, I. and Petticrew, M. (2008) *Developing and Evaluating Complex Interventions: new guidance*, London: Medical Research Council.

Ford, T., Edwards, V., Sharkey, S., Ukoumunne, O., Byford, S., Norwich, B. and Logan, S. (2012), "Supporting teachers and children in school: the effectiveness and cost effectiveness of the incredible years teacher classroom management programme in primary school children: a cluster randomised controlled trial, with parallel economic and process evaluations", *BMC Public Health*, Vol. 12, pp. 719.

Furlong, M.,McGilloway, S., Bywater, T., Hutchings, J., Smith, S.M. and Donnelly, M. (2012), *Behavioural and Cognitive-Behavioural Group-Based Parenting Programmes for Early-Onset Conduct Problems in Children Aged 3 to 12 Years (Cochrane review).* The Cochrane Library, Vol 2. Oxford: UK Software.

Gardner, F., Burton. J. and Klimes, I. (2006), "Randomised controlled trial of a parenting intervention in the voluntary sector for reducing child conduct problems: outcomes and mechanisms of change", *Journal of Child Psychology and Psychiatry*, Vol. 47 No. 11, pp. 23–32.

Greene, R., Beszterczey, S., Katzenstein, T., Park, K. and Goring, J. (2002) "Are students with ADHD more stressful to teach?", *Journal of Emotional and Behavioural Disorders*, Vol. 2, pp.79-90.

Greenhalgh, T., Humphrey, C., Hughes, J., MacFarlane, F., Butler, C. and Pawson, R. (2009), "How do you modernize a health service? A realist evaluation of whole-scale transformation in London", *The Millbank Quarterly*, Vol. 87, pp. 391-416.

Hammersley, M. (2002), "Ethnography and realism", in Huberman, A.M and Miles, M.B (Eds), *The Qualitative Researchers Companion*, Sage, London, pp.65-80.

Hutchings, J., Daley, D., Jones, K., Martin, P., Bywater, T. and 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*, Vol. 2 No. 3, pp 15-26.

Hutchings, J., Martin-Forbes, P., Daley, D. and Williams, M.E. (2013), "A randomised controlled trial of the impact of a teacher classroom management program on the classroom behaviour or children with and without behaviour problems", *Journal of School Psychology*, Vol. 51, pp. 571-585.

Jennings, P. A. and Greenberg, M. (2009), "The Prosocial Classroom: Teacher social and emotional competence in relation to child and classroom outcomes", *Review of Educational Research*, Vol. 79, pp. 491–525.

Kellam, S. G., Ling, X., Merisca, R., Brown, C. H. and Ialongo, N. (1998), "The effect of the level of aggression in the first grade classroom on the course and malleability of aggressive behaviour into middle school", *Development and Psychopathology*, Vol. 10, pp. 165- 185.

Kokkinos, C. M. (2007), "Job stressors, personality, and burnout in primary school teachers", *British Journal of Educational Psychology*, Vol. 77, pp. 229-243.

Lang, I., Marlow, R., Goodman, R., Meltzer, H. and Ford, T. (2013), "The influence of problematic child-teacher relationships on future psychiatric disorder in a population survey with three year follow up", *British Journal of Psychiatry*, Vol. 202, pp. 336-341.

Mann, J., Henley, W., O'Mahen, H. and Ford T. (2013), "The reliability and validity of the Every Day Feelings Questionnaire in a clinical population", *Journal of Affective Disorders*, Vol. 148, pp. 406-410.

MacDiarmid, F., Racey, D., Goodman, R. and Ford, T.. "The Persistence of DSM IV Disorders in the three year follow ups of the British Child and Adolescent Mental Health Surveys 1999 and 2014". *Journal of Abnormal Child Psychology (under review).*

Maslach, C., Jackson, S. E and Leiter, M. P. (1996), *MBI: The Maslach Burnout Inventory*: *Manual*, Consulting Psychologists Press, Palo Alto,CA

McGilloway, S., Hyland, L., Mháille, G, N., Lodge, A., O'Neill, D., Kelly, P., Leckey, Y., Bywater, T., Comiskey, C. and Donnelly, M. (2011*), 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)*, Archways. Ireland.

Patterson, G R.(1982), *Coercive Family Process*, Castalia :Eugene, OR

Comment [T5]: Year?

Comment [HL6]: Still under review so year not yet available, sorry

Piaget, J. and Inhelder, B. (1962), *The Psychology of the Child*, Basic Books: New York

Ramey, C. T. and Ramey, S. L. (1998), "Early intervention and early experience", *American Psychologist*, Vol. 53, pp. 109–120.

Reid, M.J., Webster-Stratton, C., and Hammond, M. (2007), "Enhancing a classroom social competence and problem-solving curriculum by offering parent training to families of moderate-to-high-risk elementary school children", *Journal of Clinical Child and Adolescent Psychology*, Vol. 36 No. 5 pp. 605-620.

Richie, J. and Lewis, J. (2008), *Qualitative Research Practice: A Guide for Social Science Students and Researchers*, Sage London.

Rourke, B.P. (1988), "Socio-emotional disturbance in learning disabled children", *Journal of Consulting and Clinical Psychology*, Vol.56 pp. 801-810.

Rutter, M., and Smith, D. J. (Eds.). (1995), *Psychosocial Disorders in Young People: Time Trends and Their Causes*, Wiley for Academia Europaea, Chichester.

Scott, S., Knapp, M., Henderson, J. and Maughan, B., (2001a), "Financial cost of social exclusion: follow up study of antisocial children into adulthood", *British Medical Journal*, Vol. 323, pp. 191. doi: bmj.323.7306.191

Scott, S., Spender, Q., Doolan, M., Jacobs, B. and Aspland, H., (2001b), "Multicentre controlled trial of parenting groups for childhood antisocial behaviour in clinical practice", *British Medical Journal*, Vol. 323, pp. 194–198.

Snell, T., Knapp, M., Healey, A., Guglani, S., Evans-Lacko, S., Fernandez, J.L., Meltzer,. H. and Ford, T. (2013), "Economic impact of childhood psychiatric disorder on public sector services in Britain: estimates from national survey data". *Journal of Child Psychology and Psychiatry*, Vol 54 No 9, pp 977-85

Tschannen-Moran, M. and Woolfolk Hoy, A. (2001), "Teacher efficacy: Capturing an elusive construct", *Teaching and Teacher Education*, Vol. 17, pp. 783-805.

Uher, R. and Goodman, R. (2010), "The Everyday Feeling Questionnaire: the structure and validation of a measure of general psychological well-being and distress" *Social Psychiatry and Psychiatric Epidemiology*, Vol. 45 No.3, pp. 413-423.

Webster-Stratton, C. (2011) *The Incredible Years: Parents, Teachers and Children's Training Series*, Incredible Years Inc., Seattle

Webster–Stratton,C., Reinke, W.M, Herman, K.C and Newcomer, L.L (2011), "The Incredible Years teacher classroom management training: the methods and principles that support fidelity of training", *School Psychology Review,* Vol 40, No. 4, pp. 509 –529.

Webster-Stratton, C., Reid, J. and 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*, Vol. 49 No. 5, pp. 471-488.

18

Comment [T7]: I couldn't find this one referred to in the text of paper?

Comment [HL8]: Apologies, this reference should be removed

Deleted: Webster

Deleted: -Stratton, C. and Reid, J, M. (2004), "Strengthening social and emotional competence in young children – the foundation for early School Readiness and success. Incredible Years Classroom Social Skills and Problem-Solving Curriculum", *Infants and Young Children*, Vol. 17, pp. 96–113.¶

Table 1: Teacher characteristics (n=39 as missing data from one teacher)

Characteristic	Feasibility Year 1		Feasibility Year 2	
	Group A (N=10)	Group B (N=10)	Group E (N=9)	Group P (N=10)
Age, mean (SD)	37.5 (9.5)	44.4 (9.95)	40.2 (11.2)	38.5 (10.9)
Male, n	2	0	3	1
Permanent Appointment, n	10	6	6	9
Years teaching, mean (SD)	12.4 (8.7)	14.8 (7.0)	10.3 (7.1)	10.6 (6.6)
Full time, n	8	4	8	9
Reception + KS1	9	8.5[1]	8	4
KS2 (Years 3-5)	1	1.5[1]	1	6

1 One teacher taught across both key stages 1 and 2 so is recorded as 0.5 in each

Table 2;

Teacher Focus Groups: Thematic framework for analysis

- Arrangements
  - Did not work
  - School needs
  - Suggestions
  - Worked
- Course
  - Academic level
  - Delivery
  - Development
  - Existing skills
  - Freedom from judgement
  - Gaps
  - Learning challenges
  - Learning materials
  - Peer support and shared experience
  - Practising skills within sessions
  - Sessions
  - Structure
- Dynamics
- Emotions
- Lifelong learning
  - Opportunity for reflection
  - Who would benefit and why
- Perceived changes
  - Changes for children
  - Changes for teachers
- Recruitment selection
- Relationships between group leaders and teachers
- Research
  - Being a participant
  - Questionnaires
- Resources and context
  - Applying TCM back in the classroom
  - Cultural differences
  - Discussing principles and disseminating
  - Expertise
  - Other programmes
  - Other sources of external support
  - School context

Table 3;

Headteacher interviews: Thematic framework for analysis
- Experiences of course   - Assessing learning   - Course content   - Content liked   - Content didn't like   - Sharing experiences   - Suggestions for changes to TCM course   - TCM documents and resources   - Teachers feelings and emotions about the course   - Recruitment, selection and arrangements   - Attending course   - How teachers selected   - Motivations for taking part   - It is an opportunity   - Meeting children's needs   - Meeting teacher needs   - Meeting whole school needs   - Recruitment of school – process   - Timing of course   - Research   - Communication with research team   - Making it work main trial   - Measuring outcomes   - School characteristics and context   - Children's behaviour and health   - Educational context   - Involvement in other research   - Other programmes support   - Roles of parents   - Social setting   - Teachers   - Use and impact of TCM strategies   - Children   - Head   - Learning into practice   - TCM dissemination across school   - Teachers   - Validating and confidence   - Whole school   - Wider impact

Table 4; Teacher data completion pre and post TCM course

Measure		Number completing the measure			
		Feasibility Year 1		Feasibility Year 2	
		Group A (N=10)	Group B (N=10)	Group E (N=9)	Group P (N=10)
Teacher Efficacy Scale Pre TCM	**Classroom Management**	9	10	9	10
	Student Engagement	10	10	9	10
	Instructional Strategies	9	10	9	10
Teacher Efficacy Scale Post TCM	**Classroom Management**	8	8	8	10
	Student Engagement	8	8	8	10
	Instructional Strategies	8	8	8	10
Maslach Burnout Inventory Pre TCM	**Exhaustion**	10	10	9	10
	Professional Efficacy	9	10	9	10
	Cynical	9	9	8	10
Maslach Burnout Inventory Post TCM	**Exhaustion**	7	8	7	10
	Professional Efficacy	8	8	7	10
	Cynical	8	7	7	9
Everyday Feelings Questionnaire Pre TCM		9	10	9	10
Everyday Feelings Questionnaire Post TCM		7	8	8	10

Table 5: Before-after comparison of teacher scores

Measure		N[2]	Before (B) mean (SD)[3]	After (A) mean (SD)[3]	Mean change (A – B) (95% CI)	p value	ICC[4]
Teacher sense of efficacy scale	Student Engagement[1]	34	27.6 (4.3)	29.8 (3.2)	2.3 (-0.8 to 5.5)	0.10	0.221
	Instructional Practice[1]	32	28.5 (4.3)	30.2 (3.1)	1.7 (-0.7 to 4.0)	0.11	0.057
	Classroom Management[1]	33	28.9 (4.5)	31.1 (3.2)	2.1 (0.4 to 3.8)	0.03	0
Maslach Burnout Inventory	Exhaustion	32	12 (6.7)	11.3 (5.4)	-0.8 (-3.9 to 2.4)	0.51	0.052
	Cynicism	30	5.9 (4.5)	5.9 (4.0)	0 (-2.8 to 2.8)	1.00	0
	Professional Efficacy[1]	32	25.0 (5.7)	27.3 (4.8)	2.3 (-0.3 to 4.9)	0.07	0.036
EFQ	Total Score	32	14.2 (5.8)	12.1 (4.8)	-2.0 (-5.2 to 1.1)	0.14	0.123

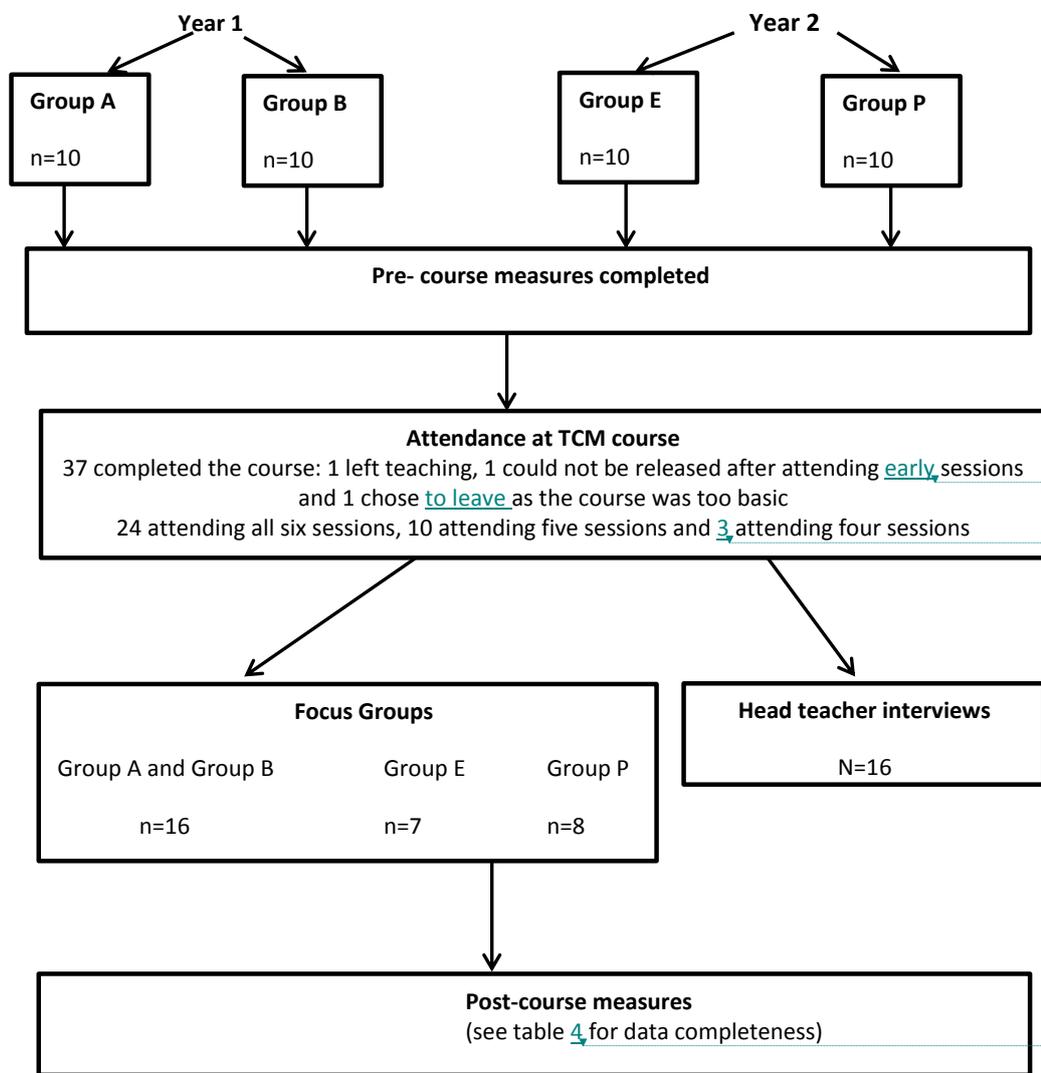[1] High scores indicate better outcome.

[2] Number with complete data at both time points.

[3] SD – standard deviation.

[4] ICC – intra-group (intra-cluster) correlation coefficient

[5] EFQ – Everyday Feeling Questionnaire

Figure 1 Flow of teachers through the study

```
        Year 1                              Year 2

┌──────────┐   ┌──────────┐      ┌──────────┐   ┌──────────┐
│ Group A  │   │ Group B  │      │ Group E  │   │ Group P  │
│          │   │          │      │          │   │          │
│ n=10     │   │ n=10     │      │ n=10     │   │ n=10     │
└──────────┘   └──────────┘      └──────────┘   └──────────┘
```

```
┌─────────────────────────────────────────────────────────────┐
│              Pre- course measures completed                   │
└─────────────────────────────────────────────────────────────┘
```

```
┌─────────────────────────────────────────────────────────────┐
│                   Attendance at TCM course                    │
│ 37 completed the course: 1 left teaching, 1 could not be      │
│ released after attending early sessions                       │
│      and 1 chose to leave as the course was too basic         │
│ 24 attending all six sessions, 10 attending five sessions     │
│ and 3 attending four sessions                                 │
└─────────────────────────────────────────────────────────────┘
```

Deleted: 3

Deleted: 4

```
┌───────────────────────────────────┐   ┌─────────────────────────┐
│           Focus Groups            │   │  Head teacher interviews │
│                                   │   │                         │
│ Group A and Group B   Group E  Group P│        N=16             │
│                                   │   │                         │
│      n=16              n=7      n=8│   │                         │
└───────────────────────────────────┘   └─────────────────────────┘
```

```
┌─────────────────────────────────────────────────────────────┐
│                   Post-course measures                        │
│         (see table 4 for data completeness)                   │
└─────────────────────────────────────────────────────────────┘
```

Deleted: 2

Group A and Group B had separate focus groups attended by a total of 16 teachers