



Evaluation of the  **pax** | Good Behavior Game Pilot study in Ireland

Final Report

I ♥ PAX



By Professor Mark Morgan
and Dr. Margaret O'Donnell

September 2015



I hear **less shouting out, less noise, hands going up more** and often, they correct each other. Less chit chat while they are on task, less arguing, less telling on each other, hearing **more helpful words and nice words to each other.**



Table of Contents



Executive Summary	4	Effectiveness of PAX GBG	28
Building Resilience in Pupils	5	Section 4: Pilot Study and Evaluation of the PAX	
The PAX GBG Programme	6	GBG in Ireland	30
Evaluation of the Implementation of the		Evaluation Overview	31
PAX GBG in Ireland	7	Data Analysis	31
Conclusions	10	Ethical Considerations	32
Recommendations	11	Stages in the Evaluation Process	33
Section 1: Background Overview & Context	13	Results 1: Measurement of Outcomes Variable	
Policy Context and Rationale	15	and Reliability	33
Section 2: Recent Research on Development and		Outcome Variable: SPLEEMS	33
Prevention of Behaviour Problems and Social and		Inter-rater Reliability	34
Emotional Challenges	18	Occurrence of SPLEEMS Before and After the	
Domains of Development: Inter-relationships	19	Programme Intervention	34
Developing Pro-Social Behaviour	20	Results for Strengths and Difficulties Ratings	
Enhancing Pro-Social Behaviour	20	(SDQ)	36
Self-Regulation and Educational Priorities	21	Results 2: Pre-PAX Interviews with Teachers and	
Innovative Classroom Prevention Programmes	21	PAX Friends	39
Relevance to PAX Good Behaviour Game	22	Interview Reports Pre-PAX GBG Implementation	39
Section 3: Evaluations of the PAX GBG		Interview Reports Post-PAX Implementation	40
Programme	24	Improving Pupils' Self-Regulatory Behaviour	40
Recent Studies of PAX GBG	26	Supporting and Developing More Effective	
Issues of Programme Implementation	27	Relationships	42
		Pupil Relationships	43
		Pupil Outcomes: What Skills?	44
		Implementation	45
		Interviews with PAX Friends	46
		References	49

Table A1: Occurrence of SPLEEMS Before and After GBG Intervention p35

Table A2: Before-After Scores in Scales of Strengths and Difficulties Questionnaire p36

Table A3: SDQ Total Difficulties Score Before and After Programme p38



Executive Summary

Social learning theories emphasise the “reciprocal interaction between cognitive, behavioural and environmental determinants” of human behaviour (Bandura, 1977: vii). From a social learning perspective, deviant and inappropriate behaviour is learned and sustained via associations with family and peer networks. In this regard, it follows that these behaviours can be modified “to the extent that one is able to manipulate those same processes or the environmental contingencies that impinge on them” (Akers & Sellers, 2004: 101). From this perspective, policy-makers should focus on developing and implementing preventative and rehabilitative programmes that use social learning variables to change behaviour in a positive direction and to help pupils’ to develop resilience skills overtime.

Building Resilience in Pupils

While in the past resilience was originally conceived as reliant on personal attributes only (Luthar & Brown, 2007) which reflected an ability ‘to bounce back’ from an adverse situation, current research points to the dynamic nature of resilience (Day et al., 2006, 2007) and suggest that resilience itself results from the interaction between psychological, behavioural and cognitive aspects of functioning as well as emotional regulation (Greenberg, 2006; Luthar & Brown, 2007). Day and Gu (2014) point to three distinct characteristics of teacher resilience by claiming that it is context specific, role specific and that it has a broader meaning than bouncing back quickly and efficiently from difficulties.

“Resiliency in children is the capacity of those who are exposed to identifiable risk factors to overcome those risks and avoid negative outcomes such as delinquency and behavioural problems, psychological maladjustment, academic difficulties, and physical complications” (Rak & Patterson, 1996, p. 368).

There is now substantial evidence in support of the view that pupils can acquire the capacity to be resilient which enables them to cope with inevitable adverse experiences that they are likely to encounter. Two relevant factors emerge from the *Growing up in Ireland Study – (2007- present)*. The first factor concerns the interplay between social and emotional competencies and school achievement, in that while pupils’ social development is important in its own right, it also serves to enhance school achievement through helping pupils to deal with the setbacks that occur in their learning. The second factor points to the importance of self-regulation - resilience skills help pupils to monitor their own progress and to set appropriate goals – a process that is critical for both social and academic development. The outcomes of the implementation of the PAX GBG show that the

programme capitalises on both of these features (self-regulation and the interaction of social development and achievement) and is therefore potentially a major pillar in building resilience.

The PAX GBG programme is based on a number of principles from modern research in psychology and education which highlight the strong link between social and anti-social behaviour and academic achievement. They point to the importance, at school level, of fostering and supporting pro-social behaviours and helping pupils to develop the motivation and self-control mechanisms that underlie such behaviours.

The focus of this report is to detail the evaluation of a pilot programme of the PAX 'Good Behaviour Game' (GBG) which was carried out in Ireland in early 2015 by Northside Partnership and the Midland Area Partnership (HSE, Athlone, Portlaoise and Carrick on Shannon Education Centres). The programme targeted a combination of first and second classes pupils (*n*410) aged 7-8years, in socially disadvantaged primary schools, in the Dublin and Midlands areas. Training and technical assistance was provided by the PAXIS Institute, under the direction of Professor Embry to teachers (*n*21) and mentors (*n*2). The teachers and mentors were trained in the background, rationale and strategies of PAX GBG over a three-day period. Implementation of the programme began in January and concluded in April 2015. The fact that the programme could be effectively implemented mid-year - with pupils that the teacher already knew - points to the flexibility the programme's implementation process. In addition, a PAX GBG mentor - referred to as a PAX Friend provided continual mentoring and support to the teachers to ensure fidelity and adherence to the principles of the programme.

In this executive summary, the principles on which the programme is based are discussed together with a summary of relevant research studies which detail the programme's impact on both classroom management and pupils' self-regulatory behaviour. The implementation of the pilot programme in Ireland is described together with the results of an evaluation of the outcomes. Particular attention is given to the factors that facilitated the implementation of the PAX GBG programme. Finally, the main conclusions are set out as well as recommendations for future developments following considering of the evaluation outcomes.

The PAX GBG Programme

The PAX GBG programme aims to teach pupils self-regulation, self-control, and self-management skills in the context of collaborating with others for peace, productivity, health and happiness (PAX).

The programme seeks to reduce disruptive and off-task behaviour through promoting a positive classroom climate, reinforcing good behaviour and enhancing academic learning. The programme begins with an initial session where the teacher asks the pupils to create a visual map of what they would *see, hear, do and feel more and less often* in the classroom. This task is fundamental to pupils' understanding of acceptable and unacceptable behaviours and is frequently revisited in order to revise and consolidate pupils' learning. The desired behaviours that should happen more frequently to create a positive learning environment in the classroom are called PAX (Peace, Productivity, Health and Happiness) and the disruptive, inattentive and unengaged behaviours, which should happen less frequently are called SPLEEMS. It appears that pupils adapt to these new terms quite easily and quickly learn to discriminate between PAX and SPLEEMS, which is a critical step in learning sustainable self-regulation and attention. The focus for the teacher is to set up conditions of success for pupils to create PAX, while reducing the occurrence of SPLEEMS either intentionally or unintentionally. This is facilitated through class teams playing the PAX GBG game for set periods of time during the day. Each team which scores below the predetermined number of SPLEEMS wins a short cost-neutral fun activity prize - typically some novel activity not normally experienced in the classroom. In addition, pupils are encouraged to observe and comment on others' positive behaviours - class peers, teachers, school personnel, and to write *Tootles* to them expressing appreciation for their help and kindness. All of these activities serve to promote awareness for pupils of their own and others' behaviours which in turn helps to support the development of their own self-regulatory skills.

Evaluation of the Implementation of the PAX GBG in Ireland

The evaluation sought to compare the pre and post outcomes of the pilot study (during the period January to April 2015) to the outcomes that have been reported in various other studies of the PAX GBG. In particular, this involved examining to what extent the programme served to decrease the incidence of disturbing, disruptive, inattentive and unengaged behaviours in the classroom (SPLEEMS) and to increase pupils' self-regulatory behaviour. The evaluation employed a mixed methods approach using both quantitative and qualitative data from the following sources: (i) quantitative data on SPLEEMS in pre- and post - implementation phases, (ii) implementation data based on records of fidelity held by the PAX GBG mentors, (iii) a qualitative interview with the PAX GBG mentors, and (iv) interviews pre and post with the teachers implementing the programme.

As the observation and measurement of the occurrence of SPLEEMS involves a subjective judgement, a measure of reliability between the two evaluators, over three classroom observational sessions, showed an average level of agreement of 91%. This level of reliability was considered satisfactory.

The mean number of SPLEEMS recorded before and after classroom observation sessions were 110.5 and 62.0 respectively; this difference is statistically significant indicating a very substantial improvement following the implementation of the PAX GBG programme. The final analysis shows a significant reduction in SPLEEMS in 20 of the 21 classes in both Dublin and the Midlands area. The reduction in SPLEEMS was not associated with factors associated with gender with regard to teachers and pupils or to class size.

The teachers rated each of the pupils in their class on the SDQ (Strength and Difficulties Questionnaire) before and after the intervention. Over this period, there were statistically significant improvements on three of the sub-scales of the SDQ viz., hyperactivity, emotional symptoms and pro-social behaviour. A total problem score on the SDQ was also calculated by adding the scores on the four subscales (hyperactivity, emotional symptoms, conduct disorders and peer problems) and a comparison of the before and after means shows a statistically significant difference. The most striking feature was the improvement in the rating of pupils, who initially presented with more challenging behaviours, 20.4% of whom fell into either the borderline or challenging category. Following the implementation of the PAX GBG programme almost one third of these pupils were regarded, by their teachers, as being in the normal range. Given that the SDQ measures aspects of behaviour that are often regarded as relatively stable, the impact of the PAX GBG programme on pupils who were experiencing difficulties in school is substantial. It is also of particular importance, given the emphasis of the PAX GBG, that there was a statistically significant improvement in relation to pupils' pro-social skills as measured by the SDQ.

The analysis of the qualitative data from interviews conducted with 21 teachers prior to the implementation of the PAX GBG conveyed teachers' concerns about the frequency of interruptions by pupils on the teaching process and on their own learning. Teachers expressed a desire that pupils could become more independent and confident and have the ability to resolve problems and in general to relate in a caring and friendly manner to others for example, to hear more positive comments from pupils, less telling tales and less interruptions such as pupils inappropriately shouting out in class. All teachers spoke of their desire to engage in more interactive learning and explorative activities, however, many teachers reported that this was not possible due to the level of disruptive behaviour in

the class. Teachers wanted to feel more in control and to create an atmosphere where there was mutual respect and acceptance being shown by all pupils to each other. In addition, they wanted to feel that pupils were becoming more organised and independent with an ability to resolve conflict situations in an atmosphere of mutual respect and acceptance of all pupils. Overall, they wanted to make the classroom a happier place where pupils could engage as self-directed and independent learners while supporting each others' learning in an organised and co-operative manner.

The PAX Friends positively reported the changes with regard to the impact of the PAX GBG programme at both individual and class level. At an individual level, pupils who were previously troubled were now more confident and "still within themselves" while at a class level they observed a calmer classroom atmosphere and increased classroom co-operation. There was significantly more self-regulatory behaviour displayed by pupils, a more co-operative working atmosphere, increased positive teacher and pupil interactions and overall, a more friendly and trusting relationship was established between pupils and teachers.

Following implementation of the PAX GBG programme teachers reported extremely positive outcomes. All reported significantly reduced disruptive behaviour instances, even in relation to pupils with challenging behaviour, increased pupil attentiveness and focus which in turn created an atmosphere of contentment and well-being. Teachers' relationships with pupils became more positive with many teachers experiencing a new focus and enthusiasm for teaching. In turn, as pupils gained more control of their own behaviour, the level of positivity increased resulting in a happier classroom learning environment for all. In schools where there were two or more teachers involved in the programme, teachers reported increased collaboration, co-operation and a sharing of ideas in support of the programme implementation process. It is important to note that the long-term impact regarding self-regulation, which was evident in the quantitative analysis of the SDQ following the implementation of the programme, showed significant improvement in aspects of pupils' behaviour that are guided internally including pro-social behaviour.

With the number of SPLEEMS being significantly reduced and pupils now more able to self-regulate their behaviour, teachers engaged in more interactive and explorative learning activities which in turn, made the pupils happier in themselves and the teachers feel more positive overall. The benefits of the programme for the pupils cannot be overstated, pupils learned to differentiate between behaviours

which are conducive to learning and behaviours that interrupt and hinder learning. In addition, they learned to self-regulate their own behaviour and to respect others' strengths and abilities.

Teachers stated that the programme was well structured and easy to implement due to the training received prior to implementation. The overall strength of the programme, teachers claimed, related to the positivity of all aspects of the programme and to the fact that the pupils were actively engaged as leaders and planners of prizes - in support of a happier learning environment for all. Teachers expressed a strong desire to continue with the programme and suggested that it be extended to all classes throughout the school.

Conclusions

The evaluation of the programme suggests a number of conclusions. Firstly, the conceptual basis of the programme is in line with recent advances in social-cognitive applications of psychology and is well supported by recent influential ideas on self-regulation. This implies that the PAX GBG programme has moved beyond traditional conceptions of behaviour modification and, rather than assuming that environmental factors are the critical determinants of learning and classroom management, the programme gives ownership of the learning process to the learner. The evidence emerging from a large volume of international literature, which strongly supports the use of the programme with different age-groups and in different contexts, is indicative of the contribution that the programme is making in the many jurisdictions in which it has been implemented.

The present evaluation adds further to that promising picture. The very significant reduction in SPLEEMS is an indicator not only of improvements in pupils' behaviour but it also points to the increased opportunities provided to enhance learning and active engagement with the curriculum. In addition, the significant improvement in pupil behaviour bears testament to the value of the PAX GBG programme in developing and supporting pro-social behaviour.

The importance of programme fidelity was examined in relation to implementation of the PAX GBG programme. The present evaluation provides important guidelines for effective implementation and it points to the importance of teachers experiencing suitable pre implementation training with regard to the programmes aims, purpose and procedures. In addition, the support of colleagues and the PAX friend was positively reported.

Recommendations

The recommendations put forward in this report are guided by considerations of recent developments in the Irish educational system where at a school level, teachers have to respond to an increasingly diverse pupil population and to equip students with the competencies that they need to become active citizens and workers in the 21st century. At a national level, teachers are being asked to improve their schools, to respond in a more effective manner to higher social and economic expectations and to transform educational outcomes, often under difficult conditions. In addition, there are increasing demands on schools to address societal concerns including mental health challenges and well-being, prevention of self-harm, bullying, substance misuse and more recently the problem of childhood obesity.

The issue of curriculum overload as highlighted by teachers, points to the need to examine how and in what manner pupils can learn generic skills of self-management and regulation, which will serve to enhance their abilities to address the social and emotional issues that will invariably confront them as they grow and mature. In this context, we suggest that the skills of self-regulation, which are at the core of PAX GBG, can serve to support and develop pro social behaviours across many domains and so reduce the necessity of having multiple programmes being implemented simultaneously in schools. In this regard, we advise that the PAX GBG programme be compared to other programmes addressing pro social behaviours with respect to their impact, acceptability, cost and scalability.

In line with these principles, we recommend:

- a. The expansion of the PAX GBG programme in the schools currently using the programme
- b. The scaling up of the programme to involve other schools in the targeted areas
- c. An Irish longitudinal study of the impact of the PAX GBG programme in DEIS schools over 2/3 years
- d. The involvement of schools outside of the DEIS Band designation (while being aware of the contribution of PAX GBG in this context)
- e. Consultation and collaboration with teacher education leaders to negotiate the introduction of the programme into pre and post service teacher professional development programmes

- f. The linking of the PAX GBG programme to the National Induction Programme for Teachers (NIPT) for Newly Qualified Teachers (NQTs)
- g. That partnership with Teacher Education Centres be maintained and strengthened
- h. The development of a support webpage to include additional teacher support material
- i. The development of an online forum to enable the participant teachers to share and collaborate with each other
- j. That further research should include the voice of pupils and parents



Section 1: Background Overview and Context

The PAX GBG is a broad resilience building programme whose initial outcomes impact at class level but which in turn, are reported to have significant impact for pupils and teachers in many other dimensions.

In the Irish educational system there are a number of social concerns that impact on pupils' experiences to which the PAX GBG has particular relevance, namely the development of pro social behaviours, the promotion of well-being and the prevention of substance abuse and childhood obesity. Associated with these concerns is an emphasis on self-regulation which attempts to create an environment in which pupils are supported in taking responsibility for their own behaviour.

In addition to supporting pupils to develop pro social behaviours, the importance of the affective dimension is highlighted in *Growing up in Ireland (2007-present)* which shows that pupils' liking of school is crucially important for their social and academic progress. The importance of early intervention for pupils with learning challenges and the value in the long-term of addressing behaviour problems during the primary school years is yet another issue that is to the fore in educational policy priorities.

In recent years there is evidence of the incorporation of 'ready made' programmes into the curriculum to address issues of concern in the area of literacy and numeracy e.g. *The National Strategy to Improve Literacy and Numeracy among Children and Young People 2011-2020*, *Reading Recovery*, *Children First - National Guidance for the Protection and Welfare of Children, 2011*. Programmes targeting social-emotional development have also become popular and early evaluations of these including *Incredible Years* suggest promising outcomes (Sullivan & Morgan, 2014). In light of these recent policy initiatives and evaluations, it is appropriate to explore the positive impact of other programmes including the PAX GBG programme.

The international literature - summarised below - cites the major beneficial effects of this programme on self-regulation and behaviour management and on other aspects of behaviour that are not specifically targeted, e.g. subsequent substance abuse. This pilot programme and evaluation of the PAX GBG programme are therefore timely in terms of the findings emerging in relation to the Irish policy context and the significant volume of international data that supports the efficacy of the programme.

Policy Context and Rationale

Pupils' capacity to engage with learning, to manage their behaviour, and to regulate their emotions are essential pre-requisite skills to enable them to benefit from the academic and social learning opportunities provided within the school. Attending to instruction is a critical behaviour for academic success.

Many teachers, however, identify disruptive and inattentive classroom behaviours as key barriers to students' learning. Disruptive behaviours are among the most prevalent behaviour problems of childhood, accounting for one half to one third of all referrals to child mental health settings (McMahon & Estes, 1997). Within the classroom, disruptive behaviours impact the learning process, reduce instruction time, and make it more difficult for students to succeed academically (Luiselli, Putnam, & Sunderland, 2002). Pupils' behaviour problems and social emotional deficits in primary school are significant risk factors for a host of academic and behavioural challenges throughout their life span (Kellam et al., 2008).

Challenging behaviour has a major impact not only on pupils but also on the quality of teachers' working lives. Recent evidence demonstrates the impact of disruptive behaviour on teacher stress (Morgan, 2015), while the factors promoting resilience when coping with these and other adverse circumstances are currently being examined by Morgan and O'Donnell in an ongoing Europe-wide study exploring teacher resilience (ENTRÉE, 2014-present).

Publications such as the National Education and Welfare Board (NEWB) guidelines on developing a code of behaviour *Developing a Code of Behaviour: Guidelines for Schools*, (NEWB, 2008) highlight the importance of whole school approaches in promoting well-being and mental health in pupils and in addressing behavioural, emotional and social difficulties. The Guidelines *Behavioural, Emotional and Social Difficulties - A Continuum of Support: Guidelines for Teachers*, (NEPS 2010) show the continuum of behavioural, emotional and social difficulties ranging from developmentally appropriate behaviours to mild and transient difficulties to difficulties which present as significant and persistent. The guidelines strongly emphasise the importance of creating a whole school approach which respects and supports positive attitudes towards pupils' self-directed behaviour control.

The long term goal is that pupils should behave well because they want to, because it is the 'right' thing to do and because they are intrinsically motivated to do it. Intrinsic motivation is

the capacity to feel good when we do something we are pleased with –the reward comes from within (NEPS, 2010, p.33).

Likewise in the UK, guidance issued by the National Institute for Clinical Excellence (NICE), *Social and emotional wellbeing in primary education: Promoting pupils' social and emotional wellbeing in primary education* (2008), reflects the general thrust of the research on the emotional well-being of young pupils. It states that:

Pupils' social and emotional wellbeing is important in its own right but also because it affects their physical health (both as a child and as an adult) and can determine how well they do at school. Good social, emotional and psychological health helps protect pupils against emotional and behavioural problems, violence and crime, teenage pregnancy and the misuse of drugs and alcohol.

The publication of the *Guidelines for Health Promotion: Well-being in our schools* (NEPS, 2013) also points to the importance of promoting mental health and well-being in our schools and to the critical link between well-being and success in school and life. Education about mental health and well-being is an integral part of the Primary School Curriculum and schools are charged with promoting positive mental health in pupils, building life skills and resilience, enabling pupils to foster healthy relationships with their peers, teachers and school staff.

Mental health should permeate all aspects of school life and learning. Effective schools should therefore put systems in place to promote mental health and well-being and thus build resilience in both staff and students to help prepare them to cope with a range of life events (NEPS, 2013, p.8)

In the NEWB Guidelines *Developing a Code of Behaviour: Guidelines for Schools* (NEWB, 2008), again the importance of whole school approaches to promoting well-being and mental health in pupils and in addressing behavioural, emotional and social difficulties is addressed. The NEWB document states

“The code of behaviour helps the school community to promote the school ethos, relationships, policies, procedures and practices that encourage good behaviour and prevent unacceptable behaviour” (p.15).

These policy statements demonstrate the emphasis being placed both nationally and internationally on the promotion of pupils' well-being and mental health. The corpus of evaluative research clearly points to the fact that the PAX GBG programme is underpinned by these assumptions. In this respect, it can be argued that the PAX GBG provides a framework that supports teachers in helping pupils to develop their social, emotional and psychological wellbeing by fostering and supporting pupils' self-regulatory behaviours in relation to themselves and others.



Section 2:
Recent Research on Development
and Prevention of Behaviour
Problems and Social and Emotional
Challenges

The PAX Good Behaviour Game is founded on the work of Barrish et al. (1969) and was modified by Embry et al. (2003). It is based on social learning principles as well as new thinking relating to prevention. The programme seeks to reduce disruptive and off-task behaviour and promote a positive classroom climate, reinforce good behaviour and promote academic learning. The PAX GBG has a substantial body of literature supporting its efficacy (e.g. Kellam et al., 2008; Petras et al., 2008).

There is a significant body of research which points to the potential of the PAX Good Behaviour Game (GBG). The work of Biglan, Flay, Embry & Sandler (2012) has been especially influential in generating momentum around this work. The important features of the PAX GBG programme include: (i) the inter-relationships between various domains of development, especially with regard to disorders, (ii) the importance of modelling and reinforcing pro-social behaviour, (iv) monitoring and limiting problem behaviour (v) self-regulation and (vi) innovative positive classroom management programmes.

Domains of Development: Inter-relationships

One of the consistently emerging findings from the research on childhood adversity is that there is a substantial inter-relationship between mental, emotional and behavioural disorders. In other words, different kinds of psychological and behavioural disorders tend to co-occur (Biglan, Flay, Embry & Sandler, 2012). The national longitudinal study *Growing up in Ireland (2007- present)*, shows a strong relationship between problems in various domains; difficulties at school are associated with social and emotional problems and physical development (including being overweight) is associated with low self-esteem. It is also of interest that the *Irish Longitudinal Study of Aging (TILDA)* found evidence for the effects of adversity across the lifespan. Specifically, adverse childhood experiences including poverty and abuse were found to be associated with a range of physical diseases including cardiovascular disease, lung disease and arthritis several decades later (McCrory et al., in press).

The responses advocated to prevent childhood adversity include a range of measures such as reducing biologically and social toxic conditions. In the view of Biglan et al., (2012) adverse social conditions are physiologically harmful, in that chronic exposure to parental conflict and parental verbal abuse reduce cortical activity and affect the integrity of the brain's white matter and impact on the areas of the brain that control depression and anxiety. There is also research from schools and educational settings showing that reducing punitive practices have the effect of not only preventing behaviour problems but also of enhancing academic achievement.

Developing Pro-Social Behaviour

The development of pro social behaviour is a topic of much study and research. Biglan et al., (2012) argue for the promotion of pro-sociality in order to prevent adverse outcomes. They suggest that this concept involves having the motivation to develop societal pro-social and caring skills as well as the social and self-regulatory skills in order to perform such roles even when confronted by obstacles. The work of Kasser and colleagues is especially relevant to the value of pro-sociality – in that their work shows that valuing materialistic goals predicted later psychological problems, while in contrast, focusing on goals related to helping others and self-fulfilment resulted in better adjustment (Kasser et al., 2007).

There is also a body of research that indicates that social environments in which pro-social behaviour is modelled and in which young people are informed about different forms of such behaviour, facilitate the development of skills, motivation and self-control processes that are an essential foundation for development of pro-social behaviours. In addition, there is substantial evidence that the reinforcement of pro-social behaviour has a major impact on the development of helping and pro-social activities.

Enhancing Pro-Social Behaviour

There is substantial evidence that families, schools and neighbourhoods can play a major role in monitoring and limiting opportunities for problem behaviour as well as enhancing pro-social behaviour. In both parenting programmes and in schools behaviour management, this involves several features including increasing rules clarity and the replacement of harsh consequences with softer outcomes or preferably positive consequences for compliance (Biglan et al., 2012). It is especially worth noting that the effectiveness of such an approach has also been shown in neighbourhood contexts; crime rates have been shown to fall in areas where residents cooperate in monitoring young peoples' behaviour and act to prevent misbehaviour.

Substantially improved pupils' behaviour and the development of pro social behaviours has been shown to be related to the tracking of pupils' activities and communicating expectations regarding behaviour (Brody et al., 2004).

Self-Regulation and Educational Priorities

Self-regulation refers to the self-directive processes that are central in acquiring academic skills, such as setting goals, selecting and deploying strategies, as well as self-monitoring their effectiveness. Thus, rather than focusing on the cognitive process of learning, self-regulation is concerned with contextual procedures like planning, organising and evaluating learning but importantly the direction of these processes is in the control of the learner. Furthermore, the self-regulation process has a motivational component; it involves active learning and places the learner at the centre of this process.

Several studies have demonstrated the importance of self-regulation in school achievement and success. A classroom study by Lopes et al., (2012) based on teachers' ratings as well as school records shows that the ability to manage emotions is significantly related to achievement in school, even when controlling for socio-demographic factors as well as tests of cognitive ability. They conclude that the skills to regulate emotions account for a major part of school adaptation above and beyond the variables normally considered most important like IQ and background variables. In another study by Diamond (2013) examining findings indicate that pupils' self-regulation skills, can be improved and especially their meta-cognitive capacity. Particularly convincing evidence has been found for computerised training and for curricular programmes like the Chicago School Readiness Project (Raver et al., 2011). This latter study explored readiness for school through providing training in self-regulation to a targeted group of pupils experiencing social disadvantage. Findings reveal that pupils' meta-cognitive skills improved in relation to academic skills, including letter naming and mathematical skills, as well as their ability to pay attention and control impulses. This study suggests that the improvement in self-regulation was the mediating factor in their enhanced academic readiness. Diamond's (2013) review of self-regulation interventions suggests that pupils from socially disadvantaged backgrounds, who lag behind in self-regulation would benefit most from such interventions. There is also substantial evidence that points to the advantages of embedding self-regulation training in a variety of activities as opposed to training in self-regulation skills in isolation from the subject matter (Biglan & Embry, 2013).

Innovative Classroom Prevention Programmes

Recent research studies on the importance of effective prevention point to the negative impact of traditional approaches to classroom management. In a study 'Breaking Schools' Rules (Fabello et al.,

2011) by the US Council of State Governments (CSG), it was shown that punitive approaches to classroom management are often quite counterproductive. Specifically, the CSG report found that 23% of students, who had experienced exclusion/suspension from school at primary or post primary levels, were later involved in the juvenile justice system. In contrast, only 2% of those who did not have an exclusion/suspension had later involvement with the justice system. The same study showed that young people who were disciplined in traditional ways were much less likely to complete secondary school (high school) than those with no disciplinary record. In other words, traditional approaches to the management of behavioural challenges were shown to have less long term impact on pupils' behaviour.

A review recently published in Phi Delta Kappan suggests a number of promising alternatives to suspensions and expulsions (Mergler et al., 2014). These include: (i) the restorative justice approach (currently operating in some Irish schools), which is a platform for students and school personnel to engage in righting the wrongs caused by a student's behaviour, (ii) the Social and Emotional Learning approach, which involves pupils acquiring critical skills including managing emotions, making responsible decisions and building positive relationships and (iii) the Social Learning and Positive Behavioural Intervention approach, which is based on the principles of behaviour modification and which includes individual and group-based token reinforcement approaches. This is the approach adopted in the PAX GBG programme; however, it could be argued that the PAX GBG approach also has features related to Social-Emotional learning.

Relevance to PAX Good Behaviour Game

The PAX Good Behaviour Game is significantly related to the developments considered above. Firstly, there is an acceptance that social behaviour in the classroom and issues relating to classroom management have a profound impact on academic achievement. Secondly, there is a strong emphasis on pro-social behaviour and the need to develop the skills, motivation and self-control processes that underlie such behaviour. Thirdly, there is recognition, in the PAX GBG programme, of the role played by monitoring and limiting opportunities for problem behaviour, especially the importance of rules clarity as well as the replacement of harsh consequences with positive outcomes for compliance. Fourthly, the importance of self-regulation in enhancing pupils' academic skills and impulse control is well recognised. Finally, the PAX GBG is based on a positive approach to classroom management, rather than imposing negative consequences for misbehaviour.

In view of the programme's value in mediating better academic outcomes as a result of increased pupils' self-regulation skills, it is important that based on the findings from this initial review, which appear to be extremely positive, that the programme outcomes be evaluated at different intervals so as to determine its suitability for use in the Irish context as a programme to help increase pupils' self-regulation skills.



Section 3:
Evaluations of the PAX
GBG programme

There have been numerous evaluative reports citing the positive outcomes of the PAX GBG programme. In a review of 16 publications by Flower et al., (2014) which examined all versions of the GBG programme, following the invention of the PAX GBG programme, results showed that there was a moderate but significant effect on challenging behaviour in classroom and school settings. They also concluded that while there was a high level of challenging behaviour recorded during baseline evaluation, there was an immediate decrease following the introduction of the programme. These findings point to positive outcomes with regard to disruptive behaviours including talking out and noisemaking and off-task behaviour. With regard to 'talking out', the effects of PAX GBG were moderately positive while for 'out of seat' behaviour the effects were somewhat mixed but overall positive while the findings with regard to increasing peer acceptance (and by implication reducing peer rejection), outcomes were consistently good. One study focused on appropriate/inappropriate social interactions and found that PAX GBG appeared to be a highly effective intervention for increasing appropriate interactions and decreasing inappropriate interactions. Using a single subject experimental design (SSED), Salend (1998) concluded that the PAX GBG programme was a highly effective intervention in that it reduced negative comments among 19 school students with emotional disturbance by a significant level.

While teachers were the majority of the intervention agents of PAX GBG, other personnel were also involved including student teachers, classroom assistants, librarians and supervision staff. In this regard, it appears that successful outcomes did not depend on the particular personnel involved. Related to this outcome is the finding that a variety of training methods have been utilised in PAX GBG training including lectures, workshops, and feedback following lectures or workshops. The evidence is consistent with the principle that direct training of personnel followed by coaching is particularly effective.

An important question concerns the instructional context of the implementation and specifically whether an elementary (primary) school or a secondary school context was involved. The indications are that the programme is equally effective in all settings including primary and secondary schools as well as residential schools for young people with emotional disturbance.

Almost all of the evaluations of PAX GBG noted that rewards are a critical part of the programme, rewards such as positive use of either verbal praise, tangible rewards or social activity rewards. It was noted also that while students' understanding of what rewards they would earn was an important

factor, different kinds of rewards can be equally effective with no evidence that one is more especially advantageous in bringing about effective programme change.

In summarising the implications for practice, Flower et al., (2014) conclude that PAX GBG is an effective intervention to address a variety of challenging behaviours that could cause interruptions to the teaching and learning process in the classroom. Specifically, it may result in teachers being able to spend more time on teaching and less on responding to behavioural incidents in the classroom. The fact that PAX GBG shows effects after a short time may be of particular importance. That review also points to the wide range of personnel, apart from the class teacher, who were involved in implementing the programme e.g. student teachers, librarians and lunchtime staff. The fact that those involved in PAX GBG can have different roles highlights the ease with which the programme can be effectively implemented under different conditions (Flower et al., 2014). An additional advantage of the PAX GBG programme is that it can be implemented without the need for intensive training. On the basis of the results summarised in the review, Flower et al., (2014) conclude that the PAX GBG programme should 'be considered as a promising practice for the classroom' (p. 9).

Recent Studies of PAX GBG

In more recent years a study by Fruth & Huber (2014) explored the impact of the PAX GBG on students in pre service teacher education programmes. Their study involved a randomised control group who received the programme as part of their teacher education programme compared with a control group who received the traditional programme, but without the PAX GBG. The outcome of the study showed that the experimental group had higher teacher efficacy scores in all the relevant target areas and had efficacy scores that were significantly higher than the control group.

Another major five year study by Smith (2014) examined implementing the PAX GBG in after school settings with a view to establishing whether or not there were beneficial effects on pupils and adolescents' behaviour. The study findings showed a significant impact in pro social behaviour of young people participating in PAX GBG compared to the matched control groups. The study also showed that level of implementation was a major influence; positive outcomes were significantly stronger with pupils/adolescents who experienced the programmes as envisaged in the planning. There was also evidence of broader effects of the programme on positive youth development; specifically there was evidence of agency and empowerment effects, as indicated by the young people

encouraging good behaviour in their peers which in turn resulted in lower levels of vandalism, theft and other forms of anti-social behaviour.

Issues of Programme Implementation

The question as to how teachers implement programmes? as intended is the focus of a large corpus of research studies. The recent literature on implementation show how programmes are sometimes implemented as intended, sometimes modified beyond recognition or even sometimes entirely discarded. Conventional accounts of curriculum implementation were driven by the 'rational choice' model in that failure to implement was attributed to a failure to supervise the implementation or to a lack of capacity to 'make it happen' (Spillane et al., 2002). Fixsen et al., (2005) synthesised implementation literature and concluded that it is crucial to adopt an interpretive framework, especially the value that practitioner teachers place on the changes and how likely it will be that the implementation will maximise the fulfilment of the values that they regard as most important. There are a number of studies that have sought to pinpoint factors that may be influential in implementation outcomes.

Teacher self-efficacy, that is the confidence that a teacher has in their own capacity to enhance students' achievement, emerges as an important factor in the study by Ringwalt et al., (2003) which found that teacher efficacy was especially important in the fidelity of the implementation of a programme to prevent substance misuse. There is also evidence that teachers' perception of the organisational climate of the school may be important (Beets et al., 2008). The importance of the teacher/mentor relationship and the extent to which they collaborated is highlighted in a study by Wehby et al., (2011) as one of the strongest predictors of the success of implementation of the PAX GBG programme. In summary, the relationships enhanced the resilience of the teacher in difficult circumstances with evidence of higher levels of implementation of programmes in some urban schools where staff perceived a greater level of need (Payne et al., 2006).

The recent study by Domitrovich et al., (2015) explored the extent to which teacher and school factors were associated with implementation dosage (number and duration of games) and the quality of the PAX GBG programme. Surprisingly, the results did not show a major impact for school factors. However, some teacher influences were shown to be particularly important, especially with regard to frequency of implementation. Teachers who reported that they were exhausted and overwhelmed were somewhat less likely to play the games. Furthermore, those teachers who said that the game

fitted in with their teaching style played more games than those who did not have this view. In other words, teacher perceptions and beliefs emerged as major factors in frequency of implementation. This issue is of special importance in the present evaluation and it frequently emerges as a factor in the teacher interviews.

Effectiveness of PAX GBG

The PAX GBG has been tested in multiple trials and has a substantial body of literature supporting its short and long term effects. The short term effects relate to reduced disruptive behaviour and increased academic engaged time. The long-term effects include a reduction in mental health problems and psychiatric disorders including suicidal thoughts and attempts; reduction in addictions, bullying, violence, and crime through age 21; and increases in school success, high school graduation and post-secondary attendance. The details of these evaluations will be considered in the next section largely based on the review by Flower et al., (2014).

An important source of information for evidence-based programmes is the National Register of Evidence-based Programmes and Practices (NREPP), which is collated by the Substance Abuse and Mental Health Agency (the agency within the US Dept of Health responsible for monitoring and promoting effective programmes). A review of PAX GBG in September 2013 concludes that the controlled trials of the programme showed that there were significant reductions in behaviour problems compared to similar classrooms not participating in the programme. Furthermore, there were associated improvements in achievement (particularly reading scores) and less need of family services. It is important to note that that quality of the evaluations was rated very highly – up to 3.5 from a maximum of 4.0.

Recent accounts of the PAX GBG emphasised its potential for the development of self-regulation. In other words, rather than focusing on the cognitive process of learning, self-regulation is concerned with the contextual procedures like planning, organising and evaluating learning which is in the control of the learner. The substantial body of research demonstrating how self-regulation can enhance commitment to school, as well as school completion has been recently reviewed by one of the proposers (Morgan, 2014).

In exploring evidence based options to improve state-wide investment outcomes for the Washington State Institute for Public Policy Lee et al. (2015) reported that in terms of value for money, GBG has a

return on investment of \$57.33 for every \$1 invested. The evidence base for the PAX GBG programme is recognised by Blueprints for Violence Prevention, Substance Abuse and Mental Health Services Administration and the Institute of Medicine amongst others.

The potential ease to which the PAX GBG programme could be successfully scaled and extended to a larger number of schools and teachers in the Irish context is also worthy of note in this evaluation.



Section 4:
Pilot Study and Evaluation of
the PAX GBG in Ireland

The Northside Partnership (NSP) and the Midland Area Partnership piloted PAX GBG in a combination of first and second classes in DEIS (socially disadvantaged) primary schools, in the Dublin and Midlands areas. Training and technical assistance was provided by the PAXIS Institute, under the direction of Professor Embry. The teachers and mentors were trained in the background, rationale and strategies of PAX GBG in January 2015 over a two-day period. Some attended a third day to train as future coaches in the programme. Implementation of the programme began a week later. A PAX GBG mentor, referred to as a PAX Friend, provided continual mentoring and support to the teachers to ensure fidelity and adherence to the principles of the programme.

Evaluation Overview

The purpose of the evaluation was to conduct an independent and objective 'proof of concept' study to evaluate the implementation and outcomes of this PAX GBG pilot study. The specific aims of the study were to:

- (i) Compare the pre-post outcomes of the pilot study to the outcomes achieved in other studies of the PAX GBG. This involved testing if the game decreases the incidence of disturbing, disruptive, inattentive and unengaged behaviours in the classroom, and increases child socio-emotional and behavioural well-being
- (ii) Document the processes involved in implementing the PAX GBG in an Irish context. This involved three types of data: a) implementation data based on records of fidelity held by the PAX GBG mentor, b) qualitative interviews with the PAX GBG mentors, and c) qualitative interviews with the teachers implementing the game. The study involved 21 teachers and c.400 pupils over a period of 12 weeks. Complete data including rating on the SDQ was obtained on c.400 pupils.

Data Analysis

The programme evaluation used both quantitative and qualitative research approaches. From a quantitative approach, the SDQ questionnaire survey was deemed suitable, as it would provide purposeful, objective and structured quantitative description of teachers' opinions in relation to the impact of the variables *hyperactivity*, *emotional symptoms*, *conduct problems*, *peer relationship problems* and *pro-social behaviour* on pupils' behaviour. The rationale for its use was not so much the number of people or events involved but the breadth of coverage. "The notion of a survey involves the idea of span of vision which is wide and inclusive" (Denscombe, 2003 p27). This breadth of coverage

increases the likelihood of wider representation and subsequently the *generalisability* of the findings from the sample, so that inferences can be made about the level of difficulties associated with pupils' behaviour both before and after the implementation. The qualitative data was analysed using SPSS paired sample t-tests and the level of significance for each comparison for the SDQ questionnaire is detailed in this report.

From a qualitative perspective, semi-structured interviews (Bogdan & Biklen, 1992) were perceived as providing the best opportunity for teachers to describe in greater depth their own class and their teaching context (Cohen et al., 2000; Kvale, 1996). Qualitative data from the interviews recorded at both pre and post implementation stages were translated and coded to identify the common themes that were emerging in teachers' responses. Interviews with the PAX Friends were also transcribed and these served to provide other key perspectives to help triangulate the data findings. At all times there was an awareness of the importance of applying Lincoln and Guba (1985, p.189) criteria of credibility, transferability, dependability and conformability as appropriate in considering the trustworthiness and validity of the qualitative data. Features of this study that helped establish the trustworthiness of the evaluation was the fact that all participants completed the implementation programme and the level of access provided to the researchers. The team had the opportunity to observe context and real life lessons, to observe PAX GBG classroom displays and to read children's postings on what would make for better classroom conditions both before and after the implementation. In addition, they had access to additional perspectives from the interviews with the PAX friends. The triangulation of the data from all sources helped to reduce threats to the validity of the findings. Cohen et al (2000, p.120) advise that "qualitative methodologies reliability includes fidelity to real life, context and situation specificity, authenticity, comprehensiveness, detail, honesty, depth of response and meaningfulness to the respondents." The researchers attempted at all times to be adhere to these principles.

Ethical considerations

At all stages, the ethical issues in relation to the interviews and observations were based on informed consent, confidentiality and the right to withdraw at any stage of the process (Cohen et al, 2000). Informed consent was obtained in writing from all participants.

Stages in the evaluation process

Specifically, the evaluation involved the following: (i) the evaluators collected data on the number of SPLEEMS (i.e., disturbing, disruptive, inattentive and unengaged behaviours), through independent classroom observations in the participating classes and conducted a pre-post analysis of anonymised data on the number of SPLEEMS recorded at baseline (January 2015) and follow-up (April 2015), (ii) administered and conducted a pre-post analysis of pupils' baseline (December 2015) and follow-up (April 2015) scores on the *Strengths and Difficulties Questionnaire (SDQ)* as reported by teachers (see details of instrument below), (iii) Administered and analysed data from two sets of qualitative interviews and questionnaires with the teachers implementing PAX GBG. The baseline interviews and questionnaires elicited views regarding the teacher's self-efficacy, enjoyment of teaching and discipline style while the follow-up interviews elicited the teacher's experiences of the game, (iv) administered and analysed data from in-depth interviews with the PAX GBG mentors to identify the strengths and weaknesses of implementation in the Irish context, (v) analysed the implementation data held by the PAX GBG mentors on fidelity to the game in the Irish context.

In addition, the evaluators conducted a policy analysis which compares and contrasts the principles underlying the PAX GBG to existing principles guiding teaching practices in Ireland. They also synthesised the key learning emerging from the implementation of the PAX GBG in Ireland together with recommendations on how best to sustain and/or mainstream the initiative.

Results 1: Measurement of Outcomes Variable and Reliability

A crucial feature of the design of the study was a pre-intervention and post-intervention measure of classroom behaviour with a focus on the change that occurred/did not occur following implementation of the PAX GBG programme. Below the nature of the outcome variables are described together with a calculation of the inter-rater reliability of the process

Outcome variable: SPLEEMS

In the current study, as in other studies of the PAX GBG, an important objective was the reduction in disruptive behaviours of students in the classroom and a comparison of the frequency of such behaviours before and after the intervention. At the outset the evaluators identified as far as possible the full range of disruptive behaviours that were the target of the intervention. In identifying the range

of such behaviours, they were guided by the existing studies and specifically the behaviours that were identified as SPLEEMS in these studies.

The following were included under the SPLEEM definition: (i) Disruptive behaviour such as talking out, noisemaking and aggression, (ii) Off-task behaviours like failing to pay attention to academic activities and being unengaged in academic tasks, (iii) out of seat behaviour (without permission), (iv) rule violations especially not following rules or engaging in behaviours contrary to expectations, (v) anti-social behaviour often defined as a composite of several forms of negative social interactions, (vi) externalising behaviour refers to oppositional behaviour and conduct issues, and (vii) negative comments to others including swearing or inappropriate gestures.

Inter-rater reliability

Prior to the intervention (pre-intervention measure) both evaluators discussed in detail the criteria for identifying SPLEEMS, in accordance with the definitions above. Following these discussions the evaluators independently did a calculation of SPLEEMS for three lessons with different teachers using the rating instrument shown in Appendix 1. This involves a 15 minute session and the evaluators, while being at the back of the class carried out the identification independently of each other. The following **were the results:** For Teacher A, the evaluators' scores were 48 and 45, giving a level of agreement of 94%. For Teachers B, the scores were 82 and 83 giving almost total agreement (99%) while for Teacher C the scores were 94 and 116, giving an agreement of 81%. Across the three sessions the average level of agreement was 91%. Given that there is some element of subjectivity in judgements of SPLEEMS this level of reliability is extremely satisfactory and supports the accuracy of the observational data.

Occurrence of SPLEEMS before and after the programme intervention

Following the establishment of a satisfactory level of reliability, the number of SPLEEMS happening during a 15 minute period was recorded in accordance with the agreed definition and before the training and intervention. The procedure in the follow-up was the same as for the pre-intervention measurement; the interval involved was exactly the same and as far as was possible the subject matter and time of day were similar to that for the pre-intervention measurement.

Below in Table A1 is shown the mean and standard deviation of the number of SPLEEMS observed before and after the programme was introduced. The means for the before and after number of SPLEEMS were 110.5 and 62.0 respectively. A related samples t test of means was applied to these means; and following this difference was statistically significant: $t(df, 20) = 2.5, p < .01$. A similar pattern emerged with regard to the number of SPLEEMS per student during the same interval; $t(df, 371) = 2.4, p < .01$

Table A1

Occurrence of SPLEEMS Before and After GBG Intervention

Measure	Before	After	Percent Change
Mean SPLEEMS for 15 mins	110.5	62.0	43.4
Standard deviation	112.4	32.7	71.4
SPLEEMS per student	5.7	3.5	38.3
Standard deviation	4.9	1.6	68.1

It is also noteworthy that the standard deviation for the SPLEEMS scores is higher than the mean score in the first phase of the measurement of SPLEEMS. This occurred because some classes had very high rates of disruption and these same classrooms showed substantially lower scores in the follow up phase. In other words there was less spread in the follow-up and by implication less extreme scores. This is an important outcome since it suggests that the teachers with very high SPLEEM scores at the pre-intervention phase experienced relatively less disruptive influences at the follow up phase. This is a key point since it indicates that the classes with the most disruptions in the pre-intervention improved to a relatively greater extent than others in the follow-up.

As might be expected, not all classrooms showed precisely the same pattern of reduction of SPLEEMS. However, it is particularly significant to note that a reduction was found in 20 of the 21 classes. A further examination of the results showed that there was a reduction in SPLEEMS in classes in the Dublin area as well as the Midlands. The reduction was not associated with gender of the teacher or of the pupils or with class size. Neither were there any differences between rural and urban pupils.

Results for Strengths and Difficulties Ratings (SDQ)

The teacher rated each of the pupils in their classes on the various dimensions of the SDQ just before the intervention and also in early May (close to the time when the measurement of SPLEEMS took place). The SDQ comprises of five subscales with each consisting of five items as follows: (i) *hyperactivity* (restless, overactive, cannot stay still for long), (ii) *emotional symptoms* (many worries, often seems worried), (iii) *conduct problems* (often has temper tantrums or hot tempers), (iv) *peer relationship problems* (rather solitary, tends to play alone) and (v) *pro-social behaviour* (helpful if someone is upset, hurt or feeling ill). There are five items on each subscale and thus the scores on each subscale range from 0 to 10 with low scores indicating the absence of a problem and high scores showing a degree of a problem in the domain in question. The scores on each of the subscales are added to create a 'total difficulties score' ranging from 0 to 40. The pro-social scale is not calculated as part of the 'total difficulties' measure but is however of importance in its own right and especially so in the case of the present study.

Table A2

Before-After Scores in Scales of Strengths and Difficulties Questionnaire (Means for all pupils on which completed information was available)

Scale	Before	After	N	Significance
Hyperactivity**	3.19 (3.30)	2.66 (3.10)	410	p<.01
Emotional symptoms **	1.40 (2.11)	1.15 (1.89)	405	p<.01
Conduct problems	0.89 (1.77)	0.84 (1.65)	392	ns
Peer problems	0.87 (1.41)	0.77 (1.48)	395	ns
Total problems	6.35 (4.77)	5.42 (4.03)	387	p<.01
Pro-social behaviour*	8.80(1.82)	9.01 (1.63)	397	p<.05

** Highly significant improvement

* significant improvement

Main table entries are mean scores on the scales before and after the programme implementation and standard deviations are shown in parentheses

Table A2 shows mean scores for each of the five subscales on the SDQ. There were statistically significant improvements on three of the scales, viz., hyperactivity, emotional symptoms and pro-

social behaviour. In two of these (hyperactivity and emotional symptoms) the difference was highly significant. It should be noted that while there were not statistically significant improvements with regard to conduct disorders and peer relationship problems, the mean score was lower in the follow-up for both of these measures.

The total problem score on the SDQ was calculated by adding the scores on the four subscales (hyperactivity, emotional symptoms, conduct disorders and peer problems). A comparison of before and after means showed a statistically significant difference, as can be seen from Table A2.

The significant improvement in pro-social behaviour is especially worthy of comment. It may seem that the increase in the scale score is modest, until it is taken into account that the maximum score on this scale is 10. Thus the improvement in this key aspect is especially noteworthy. Thus, we can say with confidence that the programme had an impact on pupils when considered together, that is all pupils without taking account of their needs before the programme began.

An important question centres on whether it was the case that the pupils with the greatest need benefited from the programme. In line with the procedure adopted in earlier studies with the SDQ, the individual pupils were categorised broadly as follows following the addition of the scores on the four subscales (hyperactivity, emotional symptoms, conduct disorders and emotional symptoms): scores of 11 or less are categorised as having 'No difficulties', scores between 12 and 15 are regarded as 'Borderline difficulties' and scores of 16 or above are regarded as 'Challenging difficulties'. (In the literature the expression 'Problematic' is used to identify the latter category).

Table A3 shows the percentage of pupils in each category before and after the introduction of the programme. The most striking feature is that while 20.4% of the pupils fell into either the borderline or challenging categories before the introduction of the programme, the corresponding figure was 14.5% following the programme. To establish the statistical significance of these findings, the Fisher Exact Probability Test was applied to the 'before' and 'after' figures and as shown in Table A3, the changes were statistically significant.

Given that the SDQ measures aspects of behaviour that are often regarded as relatively stable, this is an important finding and draws attention to the contribution that the programme made to pupils who were experiencing difficulties in school. In other words, there was a decrease of approximately one-

third in the number of pupils who had the greatest need. This is a critical outcome and of great significance in the present evaluation.

Table A3

SDQ Total Difficulties Score Before and After Programme

	Before	After	Percent change	Significance
No Difficulties	79.6 (308)	85.5 (331)	+7.5	p<.05
Borderline	10.4 (40)	6.4 (25)	- 37.5	p<.01
Challenging	10.0 (39)	8.1 (31)	- 20.5	p<.05
Borderline and challenging	20.4 (79)	14.5 (56)	- 29.1	p<.01

Table entries are percentages falling into each category before and after the programme, together with actual numbers in parenthesis.

Results 2: Pre PAX Interviews with teachers and PAX Friends

Interviews were conducted with 21 teachers to explore the factors which they consider serve to support a positive learning atmosphere in the classroom. In addition, teachers were asked about what impact, values and outcomes they would like see developed in their pupils following their time with the class. The analysis of the qualitative data shows significant changes in the views of teachers from pre to post implementation of the PAX GBG programme.

Interview reports Pre – GBG PAX implementation

The analysis of the interviews pre-implementation pointed to a desire expressed by teachers that pupils would be more independent and confident, make quicker transitions, stay focused on the task, have better organisational skills, be more co-operative, be able to resolve small problems themselves and overall to relate in a friendly and positive manner to other pupils. In general, teachers reported that they would like to hear pupils making positive comments in relation to themselves and others, less telling tales on others and less disruptive voices shouting out. All teachers expressed a view that they would like to be able to engage in more active learning methodologies, more group and peer activities, more circle time, more pupil and peer conferencing - more fun learning activities like science and cookery. It would appear that many teachers felt that the approaches and methodologies advised in the curriculum were being compromised by the behavioural issues in class which served to reduce and in many instances totally prohibit active learning engagement by the pupils. Teachers expressed a view that they would like to be able to get through the day without so many interruptions, without having to continuously correct pupils all the time, to feel more in control and to have a sense that there is mutual respect and acceptance being shown by all. In addition, they want to feel that pupils are learning to solve problems for themselves and not constantly asking for help and attention. Teachers expressed a strong desire to make a positive impact on pupils, to help them develop values such as a love for learning, independence and respect, good listening and communicative skills, being able to follow instruction so as to understand and achieve high standards in literacy and numeracy. Overall, teachers want to feel that the pupils are learning in an atmosphere that is encouraging and respectful to all.

In conclusion, there was an overall sense that teachers strongly desire to make the classroom a happier place which could support active engagement with the learning tasks in a more harmonious and respectful manner. This in turn, would serve to support the development of more self-directed and

independent learners engaging and supporting each other's' learning in an organised and co-operative manner.

Interview reports Post - PAX implementation

Page | 40

Interviews were repeated with the 21 participant teachers following the implementation of the PAX programme. The questions from the pre intervention stage were repeated and teachers were asked what – *they could see, hear, do and feel more of and less of in their class* following the implementation of the PAX programme in their classes. In addition, teachers were asked about skills, if any, that pupils learned from the programme, the challenge of implementing the programme, whether or not they would recommend it to other teachers and if they intended to continue to use the programme with their pupils in the following year. Overall, there was an extremely positive response from all teachers to the programme with the exception of one teacher who expressed a difficulty in changing from old practices and consequently, did not fully engage with the requirements of the programme.

Improving pupils' self-regulatory behaviour

Disruptive and inattentive classroom behaviour are among the most prevalent behaviours that impact on the learning process, reduce instruction time and make it more difficult for students to succeed academically (Luiselli, Putnam, & Sunderland, 2002). At classroom level, disruptive behaviour has been identified as a key barrier to students' learning which, if left unchecked, can pose a significant risk factor for a host of other academic and behavioural challenges throughout the students' life span (Kellam et al., 2008). To engage effectively with the learning task and to attend to instruction, pupils need to regulate their emotions and manage their behaviour. These are the essential and fundamental pre-requisite skills necessary so that pupils will attend to instruction and consequently, benefit from the academic and social learning opportunities provided within the school.

The analysis of the teacher interviews post implementation of the programme present a positive image with regard to changes in pupils' behaviour with a significant reduction in disruptive behaviour instances in the classroom. The reduction in the number of disruptive behaviour instances resulted in increased pupil focus on tasks which in turn served to provide more opportunities for learning to take place in an atmosphere of contentment and well-being.

I see more focus in the class, the pupils are more aware of their own behaviour, more engaged, less passive, less disruptive, less of me shouting, I just blow the harmonica and they are all quiet.

I see more happy faces, more interested pupils, great improvements in listening skills so they can learn more. They have more control over themselves. They are engaging with the curriculum more – they are more focused, listening more so they are learning more.

I see much more focused work, they are all definitely on task - I have to do much less - I can stand back.

In addition, this increased self-directed control by the pupils served to free up the teacher to work with other pupils who needed additional help or attention.

Also I get time to focus on the more able pupils. Before, I was so busy correcting misbehaviours that I had no time for them.

The findings from the interview analysis point to a significant increase in pupils' ability to self-regulate. This is an important factor as detailed in the research by Lopes et al., (2012) which showed that the ability to manage emotions was more significantly related to achievement in school even when controlling for socio-demographic factors as well as tests of cognitive ability. Likewise, the work by Diamond (2013) outlines how pupils' self-regulation skills can be improved through training resulting in significant increases in self-regulatory skills, increased attention and impulse control resulting in improvement in pupils' academic skills, including letter naming and maths skills. The importance of embedding self-regulation training in a variety of learning activities as in the PAX GBG programme is highlighted as more effective than a stand-alone programme training approach by Biglan & Embry (2013). Other studies suggest that the improvement in self-regulation enhances academic readiness particularly for pupils experiencing educational disadvantage (Diamond, 2013).

Following the implementation of the programme, teachers reported that pupils were more aware of their own behaviour and that they had a clear understanding of what constituted good and bad behaviour in the classroom. This awareness enabled them to control their own behaviour and to help others to do likewise.

I see changes – in that they are more aware of their own behaviour and even though I have a couple who would always SLEEP but once they have learned that is it - they can rein themselves in.

What I see is that the pupils are more aware of what good and bad behaviour is in the classroom.

Biglan et al., (2013) argue for the promotion of pro-sociality as an aim to capture what is needed in preventing consequences of adversity. They suggest that this concept involves the motivation to develop the skills to have pro-social and caring roles in society as well as the social and self-regulatory skills to be able to perform such roles even when confronted by obstacles. The work of Kasser and colleagues is especially relevant to the value of pro-sociality; their work showed that valuing materialistic goals predicted later psychological problems, while in contrast goals which focused on helping others and self-fulfilment resulted in better adjustment (Kasser et al., 2007).

Supporting and developing more effective relationships

Research pointing to the importance of pupils liking school and more especially liking teachers has been shown to be an important factor. Results from a meta-analysis study by Roorda *et al.* (2011) involving almost 100 studies with 130,000 students from preschool to high school, showed that even after controlling for social background; liking for school and for teachers had a strong beneficial effect on engagement with school and also had a significant and positive impact on achievement.

One consistent outcome of the PAX GBG programme was the positive changes in relationships reported for both pupils and teachers with many teachers reporting that the programme gave them a new focus and enthusiasm for teaching, coupled with increased motivation and confidence to engage in more group activities. There was a view expressed by many teachers that they felt closer to the pupils, their language had become more positive and with the reduction in time spent on controlling and correcting behaviours, they were able to reflect on pupils' background difficulties and experiences. The classroom is reported as a more exciting place, with less time wasted resulting in increased productivity.

I feel that the teacher and pupil relationship has changed – I feel much more motivated – I couldn't wait to get started – I felt that I was fighting the same battles every single day – this programme has given me more enthusiasm for teaching.

I feel more confident now doing less structured activities e.g. measuring, before I would have them measure at their tables. I feel less anxious about losing control as I know that I will be able to get them back and refocused when I want them to.

I can do more group work, more activities, more enjoyable learning really.

As pupils in this programme became more skilled in self-regulating, less time was wasted on correction, more focused work was completed and consequently the pupils received more praise and encouragement from the teacher.

I feel that my classroom is a little more exciting playing 3 games a day, they need a break, a stretch.

I feel that there is less time wasted – pupils are able to self-regulate so the role of the teacher has changed to one where it is easy to give them more praise and complements. In this regard, I feel that my relationship with the pupils has changed – we have become closer become more of a unit with the pupils showing a calmness – which makes for a calmer teacher as well!

The relationship between the teacher and the pupils changed with reported greater awareness and empathy being shown by the teacher.

I feel that my language as a teacher has changed – I speak to them now more as equals and there is no negative stuff from me or from them. I feel more aware of what might be going on for a child who is having difficulty – in that I have time to focus on what might be happening for that child outside of school.

Pupil relationships

There is a substantial body of evidence that emotional well-being has a major impact on school achievement, as well as on self-esteem and physical development (Durlak *et al.*, 2011). This evaluation points to the extent to which the programme contributed to pupils' well-being which, while important in its own right, it also has major significance for all domains of development.

Significant changes were reported with respect to pupils' relationships, they become more mannerly, more skilled at resolving conflict, more aware and responsible for their own behaviour due to increased self-regulatory skills and competencies developed through the programme. This resulted in pupils' experiencing more feelings of happiness both in themselves and in the classroom environment.

*I see more positive behaviour, more listening and more respect generally. They are getting better at being nice to each other – the *TOOTLES helped a great deal with that.*

*(a positive comment written by a pupil and given to another peer, to the teacher or other school personnel)

They have definitely more manners, there is less arguing and they can resolve the conflicts themselves.

I hear less shouting out, less noise, hands going up more and often they correct each other. Less chit chat while they are on task, less arguing, less telling on each other, hearing more helpful words and nice words to each other.

Pupils' ability to self-direct has resulted in a happier classroom learning environment, with the pupils happier in themselves and the teacher feeling more positive overall.

Pupil outcomes: What skills?

Teachers reported that pupils showed a significant increase in awareness and control of their own behaviour, more self-regulation and taking responsibility for their own behaviour. This in turn, has led to increased awareness of others with pupils knowing which behaviours are/are not acceptable in the class and what factors contribute to a happy learning environment.

The lasting skill that they will take away is self-regulation – they can control their own behaviour. There is no naming of any child – they have to be responsible for their own behaviour.

The skills that they have developed relate to being more aware of other people, group work, team work, knowing that it is good to have a fun release and then to calm down and refocus.

They are able to regulate themselves – even if they have 2/3 SPLEEMS they are able to pull themselves back. The pupils are definitely more self - aware, they are able to know what they need to do to get things done.

Pupils can now identify SPLEEMS themselves – they know what to expect in a classroom and what not to expect. They know what makes them happy and they are asking to play the games all the time.

Implementation

Teachers were questioned with regard to the ease/difficulty of implementing the programme and if they would recommend it to other teachers. Their responses indicate that there were no significant challenges in implementing the programme; it was well structured and easy to implement. Many teachers commended the training they received and they spoke highly of the support they received from the PAX friend. All teachers reported that they would highly recommend the programme to other teachers and felt that it should be used throughout the school from infants to sixth class. They all reported that they looked forward to using the programme from the commencement of a new school year.

It is very easy to implement as the way it is structured – week 1 and week 2 this makes it easy to implement and also that everything is in the bag so the teacher does not need to buy or make anything.

Also the training was really good and Dennis Embry was fantastic. We asked every question that we could think of – there was no scenario that was not addressed. I was so enthusiastic after the training that I could not wait to get into my class to get started. I was telling my friend about it too she has a really difficult class so it would suit her class very well.

I really enjoy the programme and I'm convinced and very enthusiastic about the whole programme. In a school like this a DEIS school we are inundated with programmes – this is the first one that I felt really enthusiastic about and I guess my enthusiasm affected them as well. I'm hoping it has. I was amazed how interested they were even the hardest chaws.

They expressed a view that the programme should start in Junior Infants and then go right through to 6th class. In this way, pupils who had poor self –regulation skills could be supported at an early age before the negative behaviours became established.

I feel that the programme should start in junior infants and go right to 6th class. There are pupils in 6th class who are so badly behaved – if we had had this programme we could have helped them to self-regulate in the junior classes.

The strength of the programme, teachers claimed related to the fact that it was totally positive and controlled by the pupils themselves. In turn, and to the surprise of some teachers, it motivated all pupils regardless of their ability level.

The strength of the programme is that it is a positive programme – every aspect of it is positive, it's created by the pupils, it comes from the pupils – the PAX and the SPLEEMS and it is fun and the pupils enjoy it. They are the driving force- in this programme discipline is never mentioned – it's all pure positive and that makes a huge difference.

The programme has really motivated even the pupils that I thought would not take to it at all – these were the best. It just showed me that while they may have assessments of need these games are clued in to how to get to these pupils.

The implementation process also served to increase teacher collaboration in all schools where there were two or more teachers implementing the programme. Many reported that they presented information on the programme at staff meetings and also that they shared ideas with other teachers not directly involved in the programme.

Teachers in this school work together – bounce ideas off each other, what are the most popular games – we are always giving each other ideas.

Interviews with PAX friends

Initially pupils were asked to envision a better learning environment - what they wanted to see, hear, do and feel more and less in their classroom. In response to this demand the PAX Friend support team highlighted the importance of the student voice and they were fulsome in their praise of the pupils'

ability to express their vision of what would constitute a better classroom learning environment – *“they wanted to do more activities, to take more control of what they do and to “see” more kindness, be able to have more quiet time: to do more interesting stuff like quiet reading”*. They expressed a desire to see *“happier faces! “hear more teachers’ voice” with “less noise and more opportunities to feel secure and safe.”*

It was obvious that the pupils craved quiet and calm time and more opportunities to be given responsibility for self-control. The role of the PAX Friend was reported in interview as one who listens and supports the teacher in the implementation process. This listening allowed teachers to discuss challenges and to troubleshoot problems and find solutions in consultation with the PAX Friend. In this role, teachers were also encouraged and made aware of further support websites and instructional videos.

Factors which contributed to the effective implementation process highlighted the importance for participants in having all the necessary resources in their given pack so that no time was lost in resourcing support materials. It was evident that the programme can be successfully implemented at individual class level without a whole school approach as evidenced by teachers who singularly and successfully implemented the programme in their schools. However, all teachers expressed a view that it was preferable and advantageous to have other colleagues also implementing the programme so that that they could collaborate, discuss and share ideas. In addition, teachers reported that there was significant interest shown by other teachers in the school and that frequently they requested more information in relation to the implementation of the PAX GBG programme in the class. The visible symbol of the harmonica, which teachers implementing the programme wore, attracted attention and interest from a wide range of personnel.

The role of the PAX Friend was crucial in ensuring adherence to the integrity of the programme at implementation level. Other factors pointed to the extent to which teachers were open to change their practice – letting go of control in order to direct the pupils to self-regulatory practices - this was regarded as a significant challenge for many teachers as they abandoned and replaced old practices in the implementation process. In this regard, they had to place more control in the hands of the pupils to self-regulate and to let go of the dominant role that they previously held. Others pointed to the importance of collegial support and the negative impact of the absence of such supports.

When questioned if the programme had positive appeal –the team were in total agreement stating that “ *they could not recommend the programme highly enough – it addressed a lot of major behavioural issues experienced in the classroom with resultant positive outcomes for all pupils and teachers alike*”. This was explained by the fact that PAX focuses only on positive aspects of behaviour – catching pupils being good – as opposed to highlighting the negative or poor behaviours that are likely to occur on a daily basis. As pupils moved more to self-regulation – teachers began to reflect on their own voice – its volume and the extent to which they responded and controlled the pupils in their class.

The interviewees reported that the impact of the programme extended beyond the classroom as evidenced by the carry through from the behaviours learned in the classroom to Physical Education and other external classroom activities. Parents were also involved as teachers and pupils alike explained about the PAX GBG programme. Teachers related positive reports from parents on pupils’ improved behaviour outside school.

With regard to how PAX GBG is helping the pupils - it is reported that the impact is at two levels – individual and general. At individual level, it is reported as significantly impacting on troubled and challenged individuals – in that at an individual level it has “*turned pupils around*” *PAX has transformed that boy – given him self-esteem and a sense of responsibility, of power, and a belief in himself that he can make a difference*” Teachers are reporting that pupils who were previously troubled are more “still within themselves” and more confident that they can achieve. This in turn, increased the teachers’ belief and trust in the pupils which served to increase pupils’ self-efficacy.

At class level, changes that have been observed since the implementation of the PAX GBG point to a calmer classroom atmosphere, increased classroom co-operation, resulting in reduced negative teacher comments which served to create an overall healthier and happier self-regulatory classroom environment. In conclusion, there was a better working atmosphere that facilitated more self – regulatory pupil behaviour and positive teacher responses, resulting in a friendlier and more trusting relationship between pupils and teachers.



References

Aos, S., Lee, S., Drake, E., Pennucci, A., Klima, K., Miller, M., Anderson, L., Mayfield, J. & Burley, M. (2011). *Return on Investment: Evidence-Based Options to Improve Statewide Outcomes*. Accessed September 16th, 2015 at http://www.wsipp.wa.gov/ReportFile/1102/Wsipp_Return-on-Investment-Evidence-Based- Akers, R.L. & C.S. Sellers. (2004). *Criminological Theories: Introduction, Evaluation, and Application* (4th ed). Los Angeles: Roxbury Publishing.

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

Barrish H., Saunders M., & Wolf M. (1969). Good Behavior Game: Effects of individual contingencies for group consequences on disruptive behavior in a classroom. *Journal of Applied Behavior Analysis*. 2 (2):119–124.

Beets, M.W., Flay, B.R., Vuchinich, S., Acock, A.C., Li, K., & Allred, C. (2008). School climate and teachers' beliefs and attitudes associated with implementation of the positive action program: A diffusion of innovations model. *Prevention Science*, 9(4), 264-275.

Biglan, A., Flay, B.R., Embry, D.D., & Sandler, I.N. (2012). The critical role of nurturing environments for promoting human well-being. *American Psychologist*, 67, 257-271.

Biglan, A., & Embry, D.D.(2013). A framework for intentional cultural change. *Journal of Contextual Behavioral Science*, 2, 95-104.

Bogdan, R., & Biklen, S. (1992). *Qualitative research for education*. Boston: Allyn and Bacon.

Brody G.H., Murry V.M., Gerrard M., Gibbons F.X., Molgaard V., McNair L., & Neubaum-Carlan E. (2004). The Strong African American Families Program: Translating research into prevention programming. *Child Development*, 75(3), 900–917.

Cohen, L., Manion, L., & Morrison, K. (2000). *Research methods in education*. London: Croom Helm.

Creswell, J.W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd eds.). London: Sage.

Day, C., Sammons, P., Hopkins, D., Harris, A., Leithwood, K., Gu, Q., Penlington, C., Mehta, P., & Kington, A. (2007). The impact of school leadership on pupils' outcomes: DCSF Research Brief No RB018, Nottingham: DfES Publication (9781847750815).

Day, C., Stobart, G., Sammons, P., Kington, A., Gu, Q., Smees, R., et al. (2006). Variations in teachers' work, lives and their effects on pupils: VITAE Report (DfES Research Rep. No. 743). London: Department for Education and Skills.

Denscome, M, (2003). *The Good Research Guide* (2nd ed.). Maidenhead: Open University Press Diamond, A. (2013). Executive functions. *Annual Review of Psychology*, 64, 135-168.

- [Domitrovich, C.E.](#), [Pas, E.T.](#), [Bradshaw, C.P.](#), [Becker K.D.](#), [Keperling J.P.](#), [Embry D.D.](#), [Ialongo N.](#) (2015). Individual and School Organizational Factors that Influence Implementation of the PAX Good Behavior Game Intervention. *Prev Sci*, May 7.
- Duckworth, A.L., Quinn, P.D., & Tsukayama, E. (2012). What No Child Behind leaves behind: The role of IQ and self-control in predicting standardised achievement test scores and report card grades. *Journal of Educational Psychology*, 104, 439-451.
- Durlak, J.A., Weissberg, R.P., Dymnicki, A.B., Taylor, R.D., and Schellinger, K.B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school based universal interventions, *Child Development*, 82, 405-432.
- Embry, D.D. (2002). The Good Behavior Game: A best practice candidate as a universal behavioural vaccine. *Clinical Child and Family Psychology Review*, 5, 273-297.
- Embry, D.D. Staatemeier, G., Richardson, C., Lauger, K., & Mitich, J. (2003). *The PAX good behavior game* (1st ed.). Center City, MN: Hazelden.
- Fabelo, T., Thompson, M. D., Plotkin, M., Carmichael, D., Marchbanks, M. P. III., & Booth E. A. (2011). *Breaking schools' rules: A statewide study of how school discipline relates to students' success and juvenile justice involvement*. New York, NY: College Station, TX: Council of State Governments Justice Center; Public Policy Research Institute of Texas A&M University.
- Fixsen, D., Naoom, S., Blase, K., Friendman, R., & Wallace, F. (2005). *Implementation research: A synthesis of the literature*. Tampa, FL: The National Implementation Research Network, Louis de la Parte Florida Mental Health Institute, University of South Florida.
- Flower, A., McKenna, J.W., Buruan, R.L., Muething, C.S., & Vega, R.(2014). Effects of the Good Behaviour Game on challenging behaviours in school settings. *Review of Educational Research*, 84, 546-571.
- Fruth, J.D., & Huber, M.J. (2015). Teaching prevention: The impact of a universal preventive intervention on teacher candidates. *Journal of Education and Human Development*, 4, 1-20.
- Goodman, A., & Goodman, R. (2011). Population mean scores predict child mental disorder rates: validating SDQ prevalence estimators in Britain. *Journal of Child Psychology and Psychiatry*, 52, 100-108.
- Greenberg, M.T. (2006). Promoting resilience in children and youth: Preventive interventions and their interface with neuroscience. *Annals of the New York Academy of Sciences*, 1094, 139-150.
- Johnson, R.B., & Onwuegbuzie, A.G. (2007). Towards a definition of mixed methods research. *Journal of Mixed Methods Research*, 1, 112-133.

- Kavale, K.A. (2001). Decision-making in special education: The function of metaanalysis. *Exceptionality* 9, 245-268.
- Kasser, T., Cohn, S., Kanner, A.D., & Ryan, R.M. (2007). Some costs of American corporate capitalism: A psychological exploration of value and goal conflicts. *Psychological Inquiry*, 18, 1-22.
- Kellam S.G., Brown C.H., Poduska J.M., Ialongo N.S., Wang W., Toyinbo P., Petras H., Ford C., Windham A., Wilcox H.C. (2008). Effects of a universal classroom behavior management program in first and second grades on young adult behavioral, psychiatric, and social outcomes. *Drug and Alcohol Depend.* Jun 1; 95 (1) 5-28.
- Kremenitzer, R., & Salovey, J.P. (2012). The role of knowledge and skills for managing emotions in adaptation to school: Social behaviour and misconduct in the classroom. *American Educational Research Journal*, 49, 710-742.
- Lee, S., Aos, S., & Pennucci, A. (2015). *What works and what does not? Benefit findings from WSIPP*. Olympia: Washington State Institute for Public Policy.
- Lincoln, Y., & Guba, E. (1985). *Naturalistic inquiry*. Newbury Park, California: Sage.
- Luiselli, J.K., Putnam, R.F., & Sunderland, M. (2002). Longitudinal evaluation of behavior support intervention in a public middle school. *Journal of Positive Behavior Interventions*, 4, 182–188.
- Luthar, S. S. & Brown, P. J. (2007). [Maximizing resilience through diverse levels of inquiry: Prevailing paradigms, possibilities and priorities for the future.](#) *Development and Psychopathology*, 19, 931-955.
- McCrorry, C., Dooley, C., Layte, R., & Kenny, R.A. (in press). The lasting legacy of childhood adversity for disease risk in later life. *Health Psychology*.
- McMahon, R.J., & Estes, A.M. (1997). Conduct disorders. In Lea A. Theodore (Ed.), *Assessment of childhood disorders* (pp. 130–193). New York: Guilford Press.
- Mergler, M.S., Vargas, K.M., & Caldwell, C. (2014). Alternative discipline can benefit learning. *Phi Delta Kappan*, 96, 25-30.
- Morgan, M. (2014). Social-emotional and personal influences: The role of self-regulation in school achievement. In C. O'Sullivan et al. (Ed.). *The future of SPHE: Problems and possibilities*. Dublin: SPHE Network/DICE.
- Martens, B.K., & Meller, P.J. (1990). The application of behavioural principles to educational settings. In T.B. Gutkin & C.R Reynolds (Eds). *The handbook of school psychology* (2nd ed.). (pp612-634). New York: John Wiley & Sons.

Morgan, M. (in press). *Stress and primary teaching*. Commissioned study by Irish National Teachers Organisation. Dublin, INTO.

National Educational Psychological Service. (2010) *Behavioural, Emotional and Social Difficulties - A Continuum of Support: Guidelines for Teachers*. Author.

National Educational Welfare Board (2008). *Developing a Code of Behaviour: Guidelines for Schools*. Author.

National Institute for Health and Care Excellence (2008). *Social and emotional wellbeing in primary education*. Author.

Nixon, E. (2012). *How families matter for social and emotional outcomes of 9-year old pupils: Growing up in Ireland (2007- present), Report 4*. Dublin: Government Publications.

Paterson, K., Henderson, A., & Trivella, A. (2010) Educating for leadership: a programme designed to build a responsive healthcare culture. *Journal of Nursing Management*, 18, 78- 83.

Payne, A.P., Gottfredson, D.C., Gottfredson, G. D. (2006). School predictors of the intensity of implementation of school based prevention programs: Results from a national study. *Prevention Science*, 7(2), 225-237.

Petras, H., Kellam, S.G., Brown, C.H., Muthén, B.O., Jalongo, N.S., Poduska, J.M. (2008). Developmental epidemiological courses leading to antisocial personality disorder and violent and criminal behavior: effects by young adulthood of a universal preventive intervention in first- and second-grade classrooms. *Drug Alcohol Depend* 95(1), 1-4.

Rak, C. F., & Patterson, L. E. (1996). Promoting resilience in at-risk children. *Journal of Counseling and Development*. 74, 368-373.

Raver, C. C., Jones, S. M., Li-Grining, C., Zhai, F., Bub, K., Pressler, E. (2011). CSRP's impact on low-income preschoolers' pre-academic skills: Self-regulation and teacher-student relationships as two mediating mechanisms. *Child Development*, 82(1), 362-378.

Ringwalt, C.L., Ennett S., Johnson R., Rohrbach L.A., Simons-Rudolph A., Vincus A., & Thorne J. (2003). Factors Associated with Fidelity to Substance Use Prevention Curriculum Guides in the Nation's Middle Schools. *Health Education Behavior*, 30(3), 375-391.

Roorda, D.L., Koomen, H.M.Y., Spilt, J.L., Oort, F.J. (2011) 'The influence of affective teacher-student relationships on students' school engagement and achievement: A meta-analytic approach', *Review of Educational Research*, 81, 493-529.

Salend, S., Reynolds, C., & Coyle, E. (1989). Individualising the good behaviour game across type and frequency of behaviour with emotionally disturbed adolescents. *Behaviour Modification*, 13, 108-126.

Spillane, J. P., Reiser, B. J., & Reimer, T. (2002). Policy implementation and cognition: Reframing and refocusing implementation research. *Review of Educational Research, 72*(3), 387-431.

Smith, E. (2014). *Connecting the dots for pupils in afterschool programmes: Evaluation of the PAX Good Behaviour Game in afterschool settings*. University Park, PA: Pennsylvania State University.

Tingstrom, D. Sterling-Turner, H., & Wilczynski, S. (2006). The Good Behavior Game: 1969-2002. *Behavior Modification, 30*, 225-253.

Wehby, J., Maggin, D., Partin, T., & Robertson, R. (2012). The impact of working alliance, social validity, and teacher burnout on implementation fidelity of the good behavior game. *School Mental Health, 4*, 22-33.



"I hear less shouting out, less noise, hands going up more and often, they correct each other. Less chit chat while they are on task, less arguing, less telling on each other, hearing more helpful words and nice words to each other."

"Also I get time to focus on the more able pupils. Before, I was busy correcting misbehaviours that I had no time for them"

"The strength of the programme is that it is a positive programme – every aspect of it is positive, it's created by the children, it comes from the children and it is fun and the children enjoy it. They are the driving force – in this programme discipline is never mentioned – it's all pure positive and that makes a huge difference."

"In a school like this, a DEIS school we are inundated with programmes – this is the first one that I felt really enthusiastic about and I guess my enthusiasm affected them as well. I'm hoping it has. I was amazed how interested they were even the hardest chavs."



Find out more:

For more information please visit: www.paxireland.ie.

See also www.preparingforlife.ie, www.mapp.ie