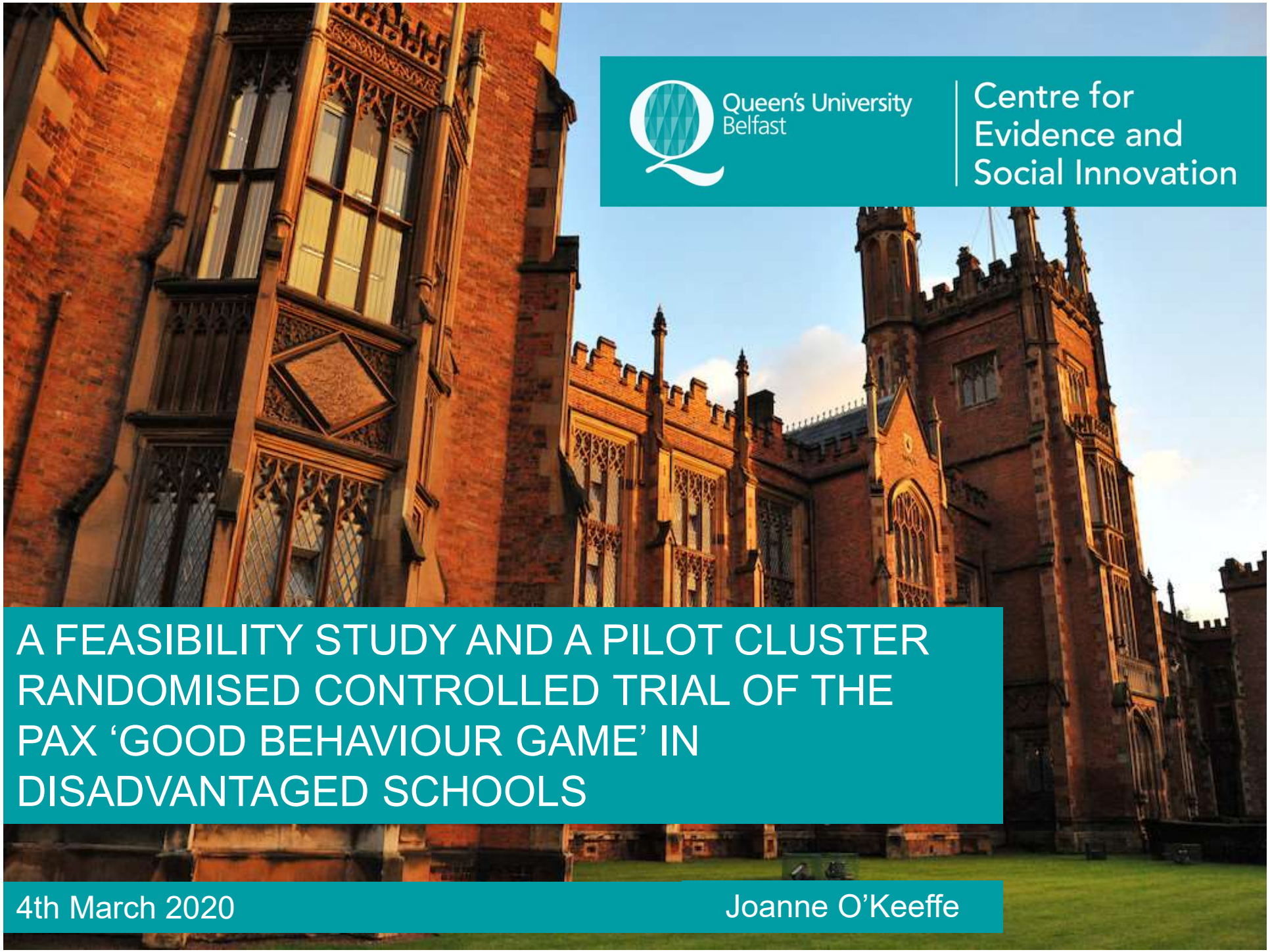

A FEASIBILITY STUDY AND A PILOT CLUSTER RANDOMISED CONTROLLED TRIAL OF THE PAX 'GOOD BEHAVIOUR GAME' IN DISADVANTAGED SCHOOLS

4th March 2020

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PhD Study

Queen's University Belfast

Centre for Evidence and Social Innovation

- A Feasibility Study and a Pilot Cluster Randomised Controlled Trial of the PAX 'Good Behaviour Game' in Disadvantaged Schools (NI)
- PhD Study
  - DEL and PHA
- Centre for Evidence and Social Innovation
- School of Social Sciences, Education and Social Work, Queen's University Belfast

Background

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- There is a growing concern regarding the mental health of children and young people in Northern Ireland.
- Research suggests that programmes delivered in schools in the form of prevention and early intervention may help address the problematic behaviours that can have immediate and long-term effects on mental health.
- The ability to self-regulate behaviour and emotions at a young age has been linked to mental health in later life.
- This study looked at the PAX Good Behaviour Game (GBG) as a potential mental health prevention and early intervention approach for Northern Ireland classrooms, in particular those situated in areas of high socio-economic disadvantage.

The PAX Good Behaviour Game

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- What is the Good Behaviour Game?
  - An evidence-based universal prevention programme designed to increase self-regulation, academic engagement and to decrease disruptive behaviour in children.
  - Teacher Muriel Saunders first introduced the game in 1969 in her Year 5 class to address disruptive behaviour.
  - It utilises peer competition and group rewards to achieve reductions in out-of-seat and talking- out behaviours.
  - More recent versions of the GBG, such as the PAX version have an increased focus on giving children the mental ability to sustain attention, to self-regulate, to cooperate with others intentionally (Paxis institute, 2015).
  - It allows children to take control of their behaviours.

The PAX Good Behaviour Game

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- PAX GBG implementation
  - USA
  - Canada
  - Europe
  - Australia
  - NI (this study)

- Two packaged versions
  - PAX GBG (Paxis Institute)
  - AIR GBG (American Institutes for Research)

The Good Behaviour Game 2 Versions

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Common Elements of the AIR/Original and PAX GBG

Kernel / Key Component	Rationale	Original GBG	PAX GBG
Response cost for negative behaviour	Easier to use and effective for ADHD behaviours	✔	✔
Team Competition	Creates positive peer pressure and reduces negative peer attention	✔	✔
Team rotations	Reduces bullying and peer rejection	✔	✔
Low emotional response to negative behaviours	Reduces accidental attention to the negative behaviour by the adult	✔	✔
Three games per day	Improves maintenance of skill	✔	✔
Use of timer	Creates pressure to succeed and excitement	✔	✔
Secret game (unannounced)	Increases generalisation to non-game times	✔	✔
Use of edibles or stickers as prizes	Are unnecessary	✔	✗
Lower points to win	Causes more rapid improvement	✗	✔
Students help design the game rules	Improves acceptance by students	✗	✔
Relational frame language correspondence training e.g. PAX, Spleems	Improves generalisation of the rule governed behaviour	✗	✔
Use of Premack principle for prizes	Improves acceptability of the game by students and adults	✗	✔
Non-verbal cues e.g. harmonica, pax sign	Accelerates generalisation and adoption of the game	✗	✔
Setting generalisation- recipe for carrying the game into hallways and cafeteria	Improves generalisation by students and acceptability of the game by adults	✗	✔
Symbolic self-modelling	Improves imitation of behaviour	✗	✔
Peer to peer praise notes	Improves social competence and reduces negative peer attention	✗	✔

(Paxis Institute, 2014)

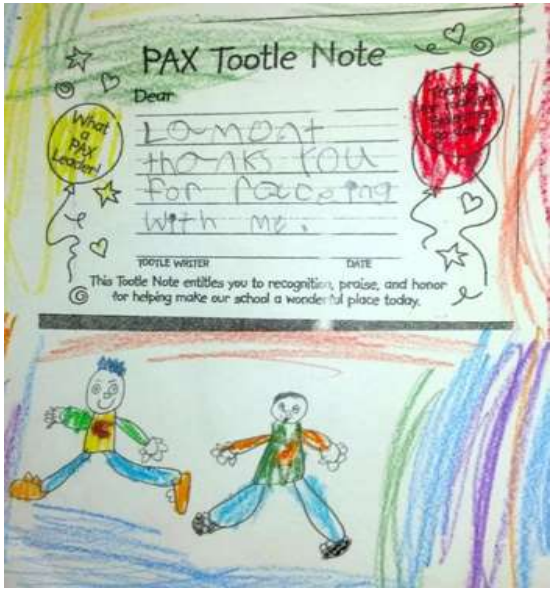
The Main Components (Kernels) of the PAX GBG

- PAX Language
  - Spleems, PAX etc.
  - PAX noticed positively
  - Spleems discussed in a neutral manner
  - No identification of children who have Spleemed
- PAX GBG Classroom Vision
  - Pupil driven (improve acceptance)
  - Desirable and undesirable behaviours
- PAX main GBG
  - Teams 3-5
  - Play 3 times per week up to 3 times per day
  - 40 minutes
  - 3 or fewer Spleems win

Three PAX Games a day,
Keep Spleems at bay...

The Main Components (Kernels) of the PAX GBG

- Granny's wacky prizes
  - Play based breaks
  - Few seconds up to a few minutes
  - E.g. playing air guitar for 60 seconds
- Tootle notes
  - Paper based communication expressing PAX to each other
  - Pupil to pupil, adult to pupil, pupil to adult, adult to adult
- Beat the Timer (transition games)
  - Win- a granny's wacky prize
- PAX Quiet
  - No verbal cue to gain pupils attention and achieve silence
  - Non threatening manner
  - Peace sign
  - All eyes on the teacher



Logic Model, Theory of Intervention

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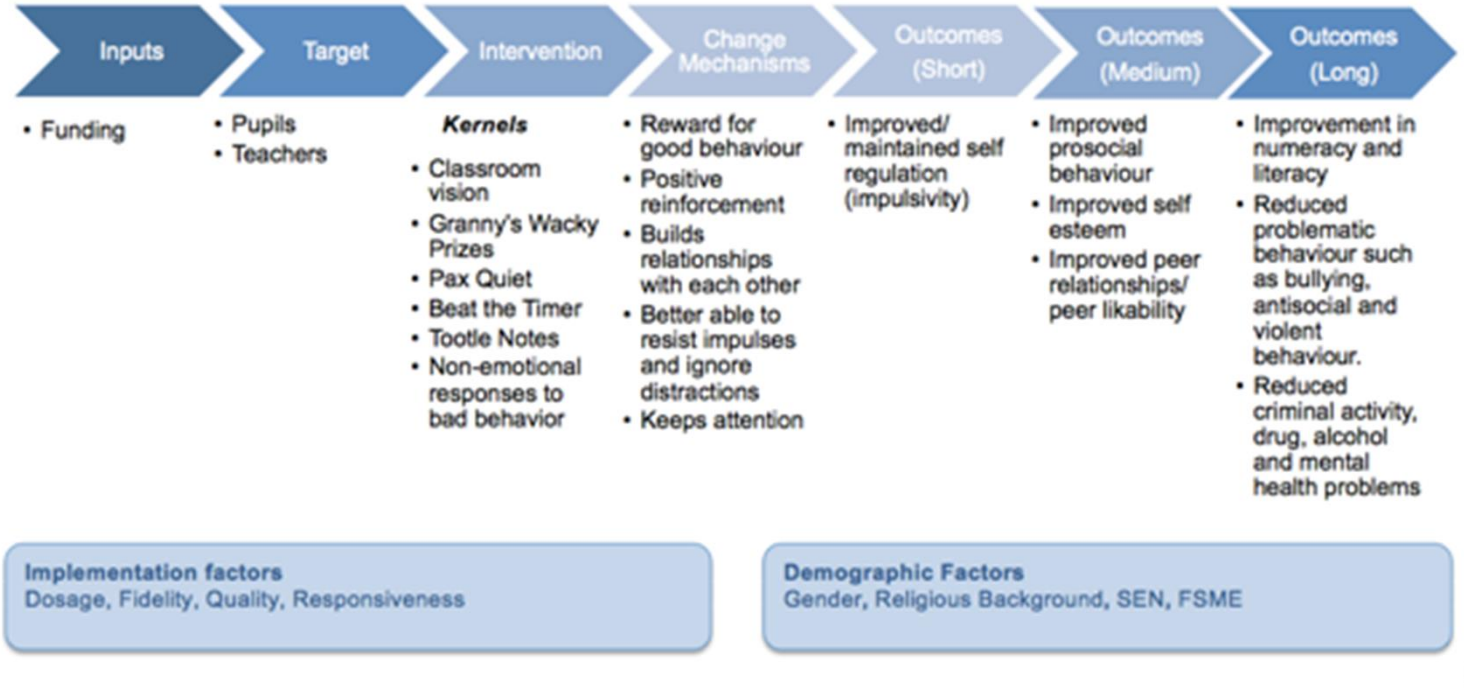
Logic Model, Theory of Intervention (O'Keeffe et al., 2017)



Research Questions

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1. What is the impact of the PAX GBG programme at post-test and at the end of the programme on self-regulation and behaviour for participating pupils?

2. Does the PAX GBG have a differential impact on pupils depending on: their gender and their EAL, SEN and socio-economic status?

3. Does the impact of the programme differ significantly according to variations in implementation fidelity? (Process evaluation)

4. What is the cost-effectiveness of the PAX GBG programme for NI?

Methodology

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- PAX GBG Partner Training in Ohio, USA.
- A cluster randomised controlled trial design.
  - 15 schools (19 classes) randomised to intervention and control.
- Participating pupils were tested prior to the start of the programme
- The intervention group received training in the delivery of the PAX GBG and implemented the programme for 12 weeks.
- The control schools did not receive the PAX GBG and proceeded as normal with regular curriculum and usual classroom activity.
- Participating pupils were then tested again at the end of the 12 week implementation.

Methodology

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- Effects of the PAX GBG were assessed on 353 pupils (Primary 3).
- The outcome measures included both child and teacher reported behaviour.
- Classroom observations were conducted and qualitative data were also collected from teachers.
- A process evaluation supplemented the RCT to measure the fidelity, delivery and acceptability of programme.
- Cost effectiveness was assessed.

Study Findings 1

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- Positive effects in relation to the Self Regulation amongst the participating pupils at the end of the 12 weeks implementation (*d*=. 42, *p*=.04).
- Exploration of subgroup analysis provided some evidence of differential effects, suggesting that PAX GBG did appear to be more effective for:
  - Improving pro-social behaviour for males than for females.
  - In reducing disruptive behaviour and hyperactivity for participating pupils with SEN.

Study Findings 2

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- The exploration of interaction effects also offered some evidence that PAX GBG contributed to:
  - Improving concentration for pupils living in more deprived areas.
  - Improvements in pro-social behaviour which were more evident in those pupils living in more deprived areas.
- Spleem counts (by the Teacher of undesirable behaviours in the classroom) indicated that between week 1 and 12 of the PAX GBG implementation, the pupils' behaviours improved, t (7) 3.22, p=.02 .

Teacher Comments

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That children can control their own behaviour and take responsibility for their actions without needing physical prizes and rewards all the time.

I am more aware now of the number of low level behaviours that go on in class and how they can impact learning.

What have you gained from using the PAX GBG in your classroom?

PAX GBG helped me with better time management and more fun with less fussy lessons

I see how my children do not need tangible rewards for good behaviour as they loved the Granny's Whacky Prizes so much!

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Less need for all the other classroom management strategies- PAX GBG covered them all!

PAX GBG created a purposeful, quiet atmosphere for work

Process Evaluation

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- Although the PAX GBG was developed in the USA, it was delivered effectively with high fidelity and was positively received by the pupils and the teachers here in NI.
- Teachers felt it fitted well into their classroom.
- The programme had a low cost of £30.48 per pupil. This cost is in line with other versions of the GBG.
- As this was a small (PhD) feasibility and pilot study, it was not powered to detect effectiveness of the PAX GBG intervention.
- However, this study did produce an effect-size estimation that could be used for a larger effectiveness trial. The primary intended effect associated with this intervention was self-regulation and the effect size estimation provides some indication that a larger effectiveness trial of the intervention is warranted.

Acknowledgements and Further Information

- This PhD study was part of a DEL funded Studentship
- Funding contribution of £30,000 from the PHA
- Support from the Paxis Institute and Queen's University Belfast
- Supervisors Professor Allen Thurston, Professor Frank Kee and Dr Liam O'Hare

- A copy of the PhD is now available

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Thank you