

The Future Challenges

Young People and Mental Health: SmartGym



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Young People and Mental
Health Resilience



An executive summary of the learning and outcomes from the SmartGym project (part of the Future Challenges programme):

Findings from the independent evaluation conducted by Wessex Academic Health Science Network (AHSN) and feedback from the programme team and stakeholders. February 2022.

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Executive summary

Background to the programme

[The Future Challenges programme](#) is a central part of the West of England AHSN's remit to support innovation in health and care and delivered as part of the commission from the Office of Life Sciences to aid the adoption and spread of promising innovations. In June 2019, the SmartGym CardioWall® Resilience Programme (SCRP) from [Rugged Interactive](#)¹ and the [Anna Freud National Centre for Children & Families](#) (AFC) was one of the innovations chosen by an expert panel from a wide range of submissions. [Gloucestershire Health and Care NHS Foundation Trust](#) (GHC) and [Newent Community School and Sixth Form Centre](#) in Gloucestershire were matched to the project as a suitable pilot site, due to their commitment to supporting children's resilience as part of their emotional development, and to creating a diverse and inclusive culture. GHC and the school collectively saw the potential for SCRP to provide an alternative way in which to engage young people, through physical activity, mental challenge, and fun.

There was interest in testing and developing the broader appeal of using SCRP with vulnerable students who struggle to manage their focus. In particular, the potential for SCRP to be used as a mechanism to support children who benefit from the use of physical activity to, a). support emotional and sensory processing regulation and, b). enhance attention.

Mental health in young people and the importance of resilience²

Studies show that existing mental health interventions fail to engage the most vulnerable children. Children with untreated behavioural problems are more likely to leave school without a qualification, experience drug or alcohol problems and become unemployed. Drop-out and non-attendance rates can be as high as 40% (28% - 75%). Resilience is an important attribute required by young people in the modern world. At an individual level, resilience has been linked to mental and physical health across the life course. School-based health promotion approaches can be cost-effective ways of contributing towards building resilience and leading to longer-term positive impacts in adulthood. As an example, regular participation in sport groups has been shown to be a protective resilience resource in childhood, as well as in later adulthood. These are most effective when implemented across the whole school, particularly if health is specifically integrated in the curriculum. Childhood resilience moderates the increased risks to mental health from adverse childhood experiences (ACEs). The ambition and purpose of SCRP is to help young people improve their mental wellbeing, by learning crucial resilience skills that they will require in their present and later life.

The intervention

The SCRP is a combined physical and mental health intervention that sidesteps the stigma and lack of youth-appeal of 'mental health' and delivers help when, and where, young people need it. It aims to help students "feel good and function well".

¹ Rugged Interactive is the trading name for Design for Sports Limited.

² The West of England Academic Health Science Network. Learning and outcomes from the SmartGym project (part of the Future Challenges programme): a report of findings from independent evaluation conducted by Wessex Academic Health Science Network, and additional feedback from the programme team and stakeholders. February 2022

It is a technology-enabled programme that engages students in a powerful combination of mental, physical, and cognitive development exercises. Students work individually and in pairs or groups on physical activity drills using a 'CardioWall®' reaction trainer. These drills are designed to develop the students' executive function skills (EFS), e.g., decision-making, flexible thinking, working memory, sustained attention etc.

Teachers and SmartGym coaches (peer mentors) deliver a weekly programme of mental and physical health education. The 'dosage' of the SCRCP is set to 10 x 45 minutes sessions, in the knowledge that this could be increased for certain students if required. SCRCP sessions comprise a psychoeducational component, recording of well-being, explanation of the goal of the session, CardioWall® training drills, recording of CardioWall® scores, reflection and recording of strategy plan to achieve goals.

Target beneficiaries

The SCRCP has been designed in such a way that it can be used as a targeted intervention to offer crucial early support for the most vulnerable young people, and/or as a universal intervention to improve wellbeing outcomes for all young people in a school. The SCRCP in Newent Community School was piloted in a real-world validation as a targeted intervention for a selected small number of secondary school students to help them "feel good and function well". For this project the CardioWall® itself was also made available to students and teachers within the school. The SCRCP does not require the specialist skills of a qualified mental health professional to deliver and, as such, was perceived as aligning with and enhancing the YMM (Young Minds Matter) programme's whole school approach.

Evaluation aims and objectives

[Wessex AHSN](#) was commissioned by the West of England AHSN in 2019 to evaluate the project, which was undertaken by Wessex Centre of Implementation Science ([WCIS](#)). The primary objective was to ascertain the extent to which the programme helped students 'feel good and function well', as well as improve their executive functioning skills and coping strategies (cognitive, emotional, and social skills). Secondary objectives aimed to identify additional benefits and limitations of the programme and assess the extent to which the programme could become routine practice within the school.

Methods

Scope, design, data collection and sampling strategy

A detailed logic model informed a real-world mixed-methods independent evaluation, underpinned by a validated conceptual framework. Qualitative data and quantitative data were collected at baseline, during and after the end of the programme. Information was given to parents, students, and school staff about the programme and its evaluation. Informed consent was received from all participants. Ethics approval was received from the University of Southampton. Students were sampled purposively and selected by the school to take part, based on those whom the school felt would gain the most benefit.

Data collection and analysis

Primary outcome data was collected using a range of behavioural, mental health and wellbeing assessment tools from each cohort. Quantitative survey data was analysed numerically using SPSS 24.00 software for descriptive statistics and statistical analysis. Qualitative data was analysed using thematic analysis and NPT.

Impact of Covid-19 on the SCRP delivery model data collection and evaluation

The Covid-19 pandemic had an extensive impact on both the project and evaluation due to government mandated lockdowns and extensive school closures. After the onset of Covid-19 in early 2020, activities were modified in line with pandemic restrictions - affecting school timetables and routines, which naturally caused interruption to data collection approaches. Two cohorts were put forward, but due to selection criteria and other reasons, the second cohort was delayed and each cohort had slightly different intervention delivery models. A detailed description of data collection instruments and sample sizes can be found in the Learning & Outcomes Report.^b

Project findings

This project showed promising results and a good potential for the SCRP to become embedded in routine practice within the school. The programme was able to engage and motivate vulnerable school students. Students learned valuable key executive functioning skills and the school is keen to continue to deliver SmartGym sessions independently going forward, to continue to support these students and further cohorts.

From the students we learnt:

- Mood and good feelings improved substantially for both cohorts, with one third reporting they had increased their physical activity. Both cohorts improved their average daily fruit and vegetable intake and improved their average nightly sleep, by an average of 40 minutes.
- Students reported positive impacts of the SCRP as: a greater ability to focus, and improved attention and concentration due to ignoring distractions; feeling more relaxed due to being able to hit the CardioWall[®] pods to feel better.
- During the SCRP, student well-being and energy improved, as did fruit and vegetable intake. Most were motivated to do better at school with nearly half showing a substantial improvement in their ability to focus and avoid distractions. Several months after the end of the SCRP, the students who completed the survey indicated that their most improved areas were that of motivation to be more physically active, and their ability to decide on a goal and make plans to achieve it.

From the parents we learnt:

- All parents indicated that their child enjoyed and looked forward to the SCRP and CardioWall® activities. All, but one parent, reported that their child had made progress. The greatest improvements were reported in their child's mood and their motivation to be more physically active.
- Some parents reported that the SCRP was too short and that it needed to continue, so their child could keep improving. Many teachers articulated a desire for a longer, or more intense, programme to maximise the benefit for students.

From the school staff we learnt:

- Teachers reported that some students had improved more than others. Those most improved had increased their attention skills because they were able to utilise the competencies learnt during the SCRP.
- Teachers reported that SCRP had been used as an effective motivational tool in lessons, and that it had enabled better focus for getting the work done.
- The SCRP demonstrated that it could engage many of the students in self-motivation and build their reflective capacity. This project highlighted the need for supporting teachers better to understand the impact of internal distress on a child's capacity to cope, with or without a diagnosis, as well as the importance of the links between the Mental Health Team, parents, and schools.
- A small proportion of teachers felt that students had not understood how to transfer their new skills into a classroom situation. Consideration should be given to a structured approach as to which students would benefit most from the programme. Teachers specified that students who were quiet and unconfident with low self-esteem, lacked focus or concentration and struggled to keep still, were most likely to benefit from the SCRP.

Conclusions

Within the rapidly changing context of the Covid-19 pandemic, the SCRP delivery model was shown to be flexible, adjustable, and engaging for a number of students, parents and more than half of the teachers who provided feedback. Not all the teachers may have understood the aims and objectives of the SCRP and may not have been clear about the actions they needed to perform to help optimise the benefits and effectiveness of the SCRP, such as praising and encouraging students for demonstrating small improvements. Parents and teachers need to be involved at the start of any future implementation of the programme, to maximise the benefit and improve experience.

The students referred to the SCRP were disengaged and did not thrive at school. They could potentially have been at risk of exclusion and/or had emotional issues, low confidence and a reluctance to access help. Students in both cohorts underlined hyperactivity and concentration difficulties as main issues followed by overall stress. The fact that some of these students reported positive changes, sustained over a period of months, is therefore significant.

There are a few limitations that are acknowledged with data reported in this evaluation. Findings are reported on a small dataset and therefore outcomes should be interpreted with caution.

Recommendations

The following recommendations have been noted for future use of the SCRP. Some relate to elements of the project that were affected by the pandemic.

- Improve the accessibility of student workbooks through digital versions and more accessible language and tasks.
- Provide sessions with parents before and after the programme for engagement and oversight.
- Test different delivery models, such as the same number of sessions over fewer weeks.
- Explore refresher sessions after the programme ends, to encourage long-term benefits.
- Obtain buy-in from all school staff from the start, to allow them to identify and monitor progress in lessons.
- Consider further evaluation to fully investigate potential benefits across larger cohorts. Additional qualitative methods could capture wider insights on the range of benefits to students, and the extent to which these can be attributed to the programme.

Potential for the future and next steps

SmartGym is an example of “upstream working” – “a type of primary prevention, that focuses on providing students with the life skills necessary to navigate situations and relationships, from which problem behaviours may arise” - identified in the Timpson Review for reducing exclusions.

The results from this evaluation indicate that the SCRP could be a valuable tool for supporting students in developing key resilience skills, helping them improve executive function skills, building confidence and improving focus in class, potentially leading to a wider benefit to the school, through less disruption in a mainstream secondary, school-based setting.

It also demonstrates the potential value of a combined physical and mental health intervention, with students whom the school identified as most likely to benefit from it. This included those who were failing to thrive at school and could potentially be at risk of exclusion, and also those with a social, emotional, and mental health (SEMH) profile, who may be reluctant to access help and unlikely to access talking therapies.

This project has also identified a number of areas that would benefit from further exploration.

- The West of England AHSN Industry and Innovation team will continue to support Rugged Interactive Ltd and the AFC to further explore opportunities for:
 - Cost-benefit evaluation
 - Different commissioning models for this type of intervention
 - Further refining the SCRIP value proposition and delivery model for schools
 - Further defining the post-programme support model for schools (see points below)
 - Development of a business case
- Based on the early success of this programme, Newent Community School and Sixth Form Centre will be running SCRIP within other year groups. This is a promising and exciting result of the project, and Rugged Interactive and the AFC look forward to supporting the school as an ambassador for this initiative. The West of England AHSN will continue to take an interest in the development of this intervention and will be keen to hear longer term feedback from the students, school staff and innovator.
- Follow up of the continued use of the CardioWall® within Newent Community School and Sixth Form Centre, including assessment of their management of equipment post-programme.
- Explore the feasibility of the SCRIP, integrated within the PSHE curriculum, by way of universal upskilling of the student population in managing their own wellbeing in targeted small groups, or one-to-one for students struggling with complex emotions and life experiences.
- The original ambition for SCRIP to be co-delivered by NHS staff, and subsequently be part of a care pathway for students referred to the EMHP, could be explored further, as this was not possible during this evaluation. A meeting with NHS community delivery teams has taken place with plans for future co-operation.

