OLDCASTLE
PRIMARY SCHOOL
INSPIRE - MOTIVATE - EDUCATE
Goreu Cam, Cam Cyntaf - The most important step is the first step

The effects of daily physical activity on perceived self esteem in upper Key Stage 2 pupils.

Background

- 2022 will bring about significant curriculum changes for schools in Wales.
- Oldcastle primary school - approx 450 students form N - Y6
- New Curriculum pioneer school - changes are already happening.
- Lead school in NPEP.
- SIlver Carnegie Mental Health Award was achieved this year, focus of our school development plan.
- Changes in the curriculum no longer require minimum of 2 hours high quality Physical Education
- Of the 5 areas of learning - Health and Wellbeing AoLE - larger and overarching.
- With the long lasting national lockdowns and effects of COVID on pupils motivation, morale and indeed movement, lack of opportunities for physical activity is a concern.

Aims and Objectives

The aim of this project was to identify the effects daily physical activity has on the perceived self esteem of upper Key stage 2 pupils. The results were intended to:

- Support the curriculum lead for Health and Wellbeing in the design, mapping and implementation of the new curriculum.
- Ensure the results support the inclusion of daily physical activity.
- Work towards the World Health Organization's (WHO) recommendation of 60 minutes of moderate to vigorous activity per day for 5-17 year olds.

Previous research - Physical Education, school sport and physical activity

- According to mentalhealth.org the emotional wellbeing of a child is just as important as their physical health and wellbeing.
- Misconceptions in terminology was essential.
- Association for Physical Education (AfPE) was used to source definitions for Physical Education (PE), school sport and physical activity.
- The WHO supported the notion that physical activity includes ‘bodily movement’. Where as PE was seen as ‘planned progressive learning’ (AfPE)
- According to Landry and Driscoll (2012), ‘Physical activities should be age-appropriate, enjoyable, and varied and occur beyond what is required for typical activities of daily living.’

Physical Education is the planned, progressive learning that takes place in school curriculum timetabled time and which is delivered to all pupils. This involves both 'learning to move' (i.e. becoming more physically competent) and 'moving to learn' (e.g. learning through movement, a range of skills and understandings beyond physical activity, such as co-operating with others). The context for the learning is physical activity, with children experiencing a broad range of activities, including sport and dance.

Physical Activity is a broad term referring to all bodily movement that uses energy. It includes all forms of physical education, sports and dance activities. However, it is wider than this, as it also includes indoor and outdoor play, work-related activity, outdoor and adventurous activities, active travel (e.g. walking, cycling, rollerblading, scooting) and routine, habitual activities such as using the stairs, doing housework and gardening.

School Sport is the structured learning that takes place beyond the curriculum (i.e. in the extended curriculum) within school settings; this is sometimes referred to as out-of-school-hours learning. Again, the context for the learning is physical activity. The 'school sport' programme has the potential to develop and broaden the foundation learning that takes place in physical education. It also forms a vital link with 'community sport and activity'.

association for Physical Education

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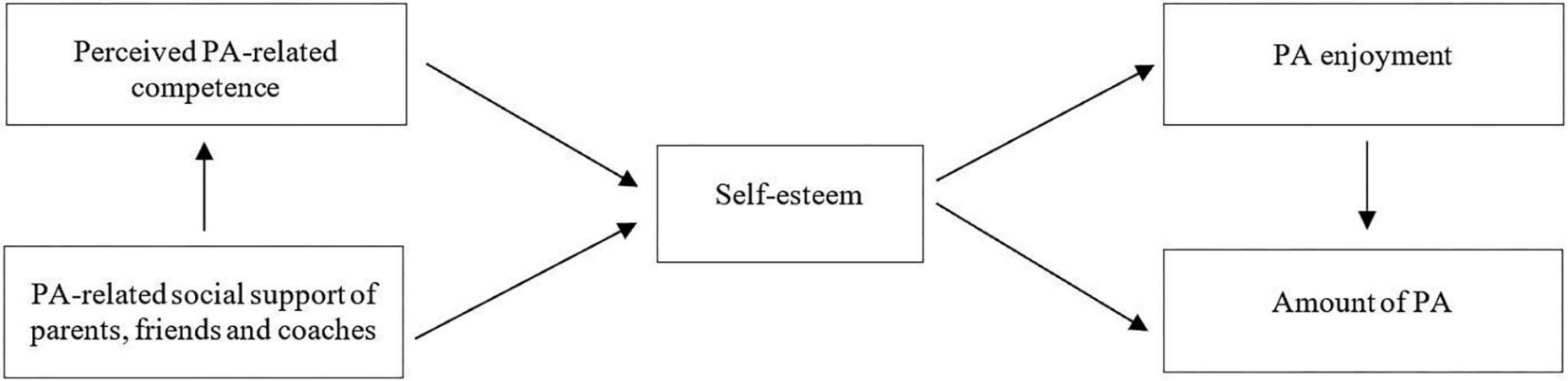
*extracted from afPE's Health Position Paper 2015

Previous research - Self esteem

- According to Crandall (1973), self-esteem can be defined as 'liking and respect for oneself, which has some realistic basis.'
- More commonly known within the research field of self-esteem, Coopersmith (1981) defines self-esteem as 'an expression of approval or disapproval, indicating the extent to which a person believes himself or herself competent, successful, significant and worthy'.
- Self-esteem has been regarded as an important element of well-being and a construct that might be open to change through exercise (Fox 2000).

Previous research - links

- Unfortunately previous studies on adolescents have focussed on links between physical activity and academic achievement, whereas this study looked at the link between physical activity and self esteem.
- Weiss-Harter (2000) model supported linking daily physical activity with self esteem.



Weiss-Harter model of self esteem (2000)

Testing - Quantitative or qualitative

- Chose a mixed methodology of quantitative and qualitative data collection and analysis.
- Quantitative data was collected via questionnaire - using the Rosenberg Self esteem questionnaire (1965) ‘A 10-item scale that measures global self-worth by measuring both positive and negative feelings about the self’. Entry and exit.
- The 4 point likert scale ensured participants didn’t choose the middle answers as a default.
- Other tests exist - Coopersmith self esteem inventory (1981) however consisted of 50 items - too many questions for the age of participants.
- Crandall (1973) focussed in physical appearance as well which was not the aim of the project.

Testing - Quantitative or qualitative

- In addition to the Rosenberg Self esteem questionnaire (1965), participants were asked to fill in a daily diary after each activity. This consisted of a likert scale section and a section where pupils could give their personal opinions, both positive and negative.
- A focus group was chosen as the third data collection method to allow participants to share information in a relaxed informal atmosphere with prompts given by the researcher.
- The focus group was used to gain information through discussion not questioning.

Methods

- Prior to COVID pandemic, it was intended to use 55 participants, however due to class bubble formation, Risk Assessments and Government guidelines this was significantly reduced to 29.
- The other 30 were invited to be a control group (Group B).
- Structure of research. All participants to complete a Rosenberg (1965) entry Self Esteem Questionnaire.
- Group A - took part in daily physical activity for between 10 and 30 minutes, on top of their fresh air breaks and lunchtime.
- After each session Group A completed a daily log using a likert scale and short answer questions.
- After 3 weeks a focus group discussion took place.
- At the end of the testing period, Group A and B took the same Rosenberg test as an exit questionnaire for start and finish comparison.

Week 1 Day 1

Complete the questionnaire about how you felt after today's activity.

*Required

1. What is your number?

2. How did you feel after today's activity?

3. What did you enjoy about today's activity?

4. What didn't you enjoy about today's activity?

5. *

Mark only one oval per row.

	Strongly agree	Agree	Disagree	Strongly disagree
I felt good about myself during the activity				
I was proud of myself during the activity				
I challenged myself during the activity				
I enjoyed taking part in the activity				

Ethics and insider

- Due to the age of the participants, parental informed consent was sought.
- Of the potential participants, 19 Group A parents consented and 18 of Group B.
- All participants identities were kept anonymous - ensuring honesty when answering questionnaires and logs.
- Group A participants were anonymously given a number which they used when completing online forms.
- Group B participants were anonymously given a letter which they used when completing online forms.
- All data collected will be deleted after submission and marking.
- Focus groups were chosen by lead Group B teacher - unknown numbers to the researcher to reduce inderider researcher bias.

Findings - Entry Rosenberg Self esteem questionnaire.

- Each method was given equal depth analysis.
- Quantitative data showed numerically what I anticipated and the qualitative supported the quantitative data and the hypothesis that daily physical activity can affect perceived self esteem.
- Rosenberg Self esteem questionnaire - 1,2,4,6,7 (3-0) whereas 3,5,8,9,10 were marked in reverse valence (0-3)
- 15-25 were seen as normal
- Below 15 seens as low self esteem,
- Group A ranged from 7-27. 26.3% scored 15 or below
- Group B ranged from 8-25 27.7% scored 15 or below

Findings - Part 1 daily diary.

- Short answer structure to support all learners.
- As expected most gave one words answers.
- Once data was collected, results were tabulated into positive and negative. After this a third column was included - commonly repeated vocabulary.
- Use of basic vocabulary was not unexpected given age and anonymity.
- Responses were both psychological and physiological.

Q 1- How did you feel after today's activity?

Good, happy, great, energised, relaxed, better, brilliant, wonderful, proud, amazing.

Tired (exhausted), sweaty

70% chose good or great, 90% gave 1 word answers - reduce misinterpretation.

Q 2 - What did you enjoy about the activity?

Most common - everything. Fresh air, playing with friends, laughing with friends.

5% chose academic approach - not in class, not learning.

Q 3 - What didn't you enjoy about the activity?

70% chose 'nothing'.

Weather related - cold and wet were common answers. Too short, not enough time.

Q 2 - positive, Q 3 had a negative stance to balance the log, both questions support Q1 - most participants felt positive after the activity.

Findings - Part 2 daily diary.

- Used a 4 part likert scale - Strongly agree, agree, disagree and strongly disagree.

I felt good about myself during the activity, I was proud of myself during the activity, **I challenged myself during the activity**, I enjoyed taking part in the activity.

Statement 1	Strongly agree	Agree	Disagree	Strongly Disagree
Week 1	47.8%	38%	8.5%	5.6%
Week 2	57.7%	25.3%	12.7%	4.3%
Week 3	54%	26%	12%	8%
Week 4	50%	35.5%	9.7%	4.8%
Week 5	50.6%	30.3%	12.3%	6.8%

Table 1- Percentage of responses from participants ‘I felt good about myself during the activity’.

Statement 2	Strongly agree	Agree	Disagree	Strongly Disagree
Week 1	35.2%	38%	22.5%	4.2%
Week 2	40.7%	37%	14.8%	7.4%
Week 3	50%	32%	12%	6%
Week 4	41.9%	32.3%	19.4%	6.4%
Week 5	47.8%	38%	8.5%	5.6%

Table 2 -Percentage of responses from participants - ‘ I was proud of myself during the activity’.

Statement 4	Strongly agree	Agree	Disagree	Strongly Disagree
Week 1	59.1%	30.9%	7%	3%
Week 2	66.1%	21.1%	7.2%	5.6%
Week 3	82%	14%	2%	2%
Week 4	67.6%	25.8%	4.8%	1.6%
Week 5	50.6%	36.9%	11%	1.4%

Table 3 - Percentage of responses from participants ‘ I enjoyed taking part in the activity’.

Focus group data analysis.

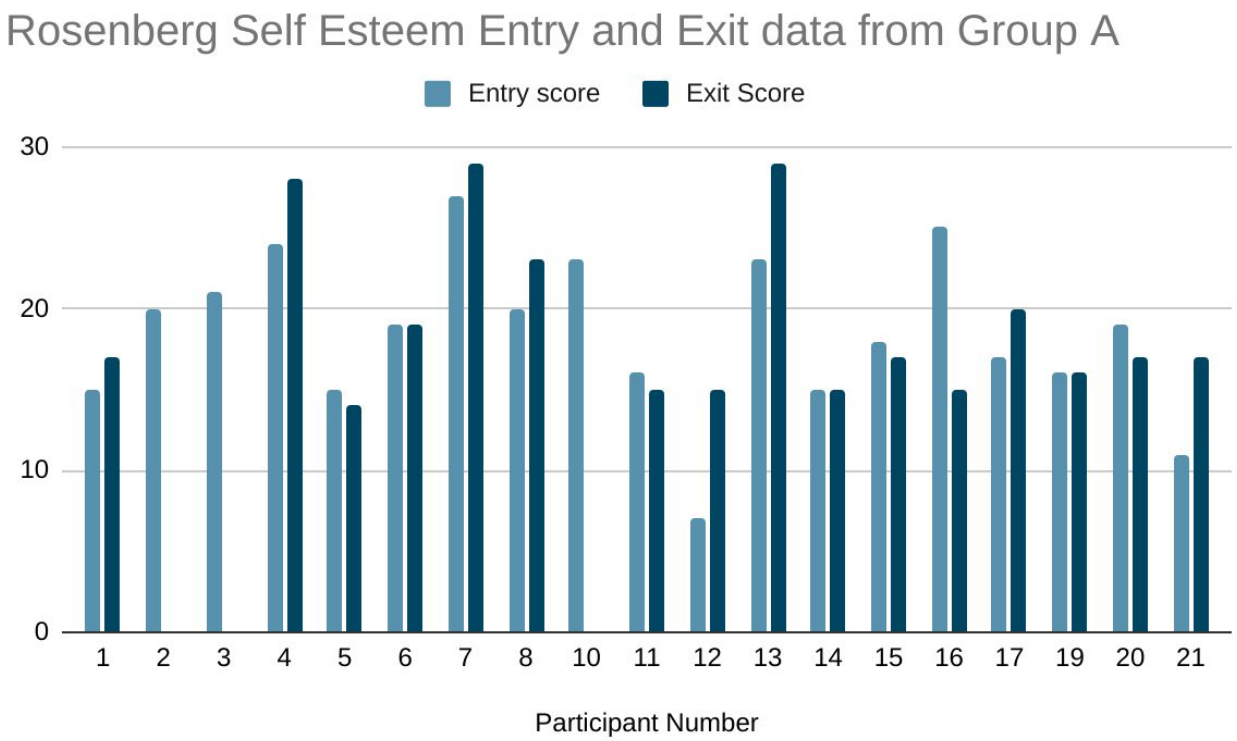
- Prompt one - what have you been doing over the last three weeks during ‘testing time’?
  - ‘fun, exciting, different, easy, good’
  - ‘it was like being kids again, no rules’.
- Prompt two - PE and Physical Activity are the same’
  - ‘PE is learning but Physical Activity is fun’,
  - ‘ I love physical activity as I love rugby. I play rugby outside of school all the time. I really hate dancing in PE though as that’s too girly’
  - ‘ I don’t like PE as I am useless at sport, I always lose or mess up’
  - ‘PE is only once a week, we do physical activity way more than that. It's fun when I get to play with my friends. In PE I can’t play’
- According to a study by Allendar, Cowbar and Foster (2006) they identified that a barrier to children participating in sport and physical activity was ‘highly structured activities’

Focus group data analysis.

- Prompt three - We don't get a lot of time for physical activity in the day
  - 'In year 1 we spent all our time playing and hardly any time learning. Before school, we would chase each other around the yard waiting for the doors to open. We used to have a morning break and afternoon break, lunchtime and we played with our friends, dress-up time in the classroom and milk time and I got to play with my friends all day. Now, all we get is a short break in the morning and a shorter lunch and we have to share the yard'
  - 'I had much more fun when I was younger, I was always active all day, now I just do PE on Thursday which I'm not very good at'.
- None of the participants identified walking to school, dog walking, chores or similar activities as examples of daily physical activity

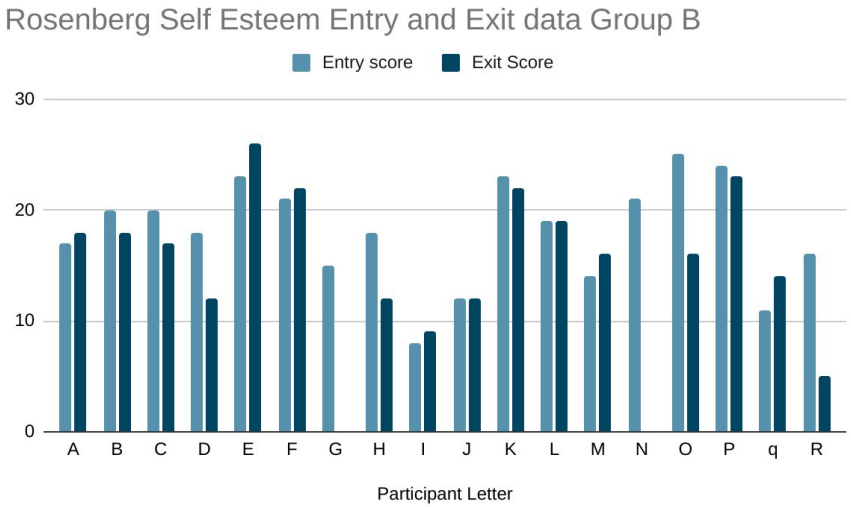
Exit and Entry comparison - Group A

- A traffic light system was used based on the recommended scores for the Rosenberg Self Esteem questionnaire. Those who scored between 0 and 14 were rated as red (low self-esteem), those who score exactly 15 were rated as amber (borderline low self-esteem) and those scoring 16-30 were rated as green.
- 42.1% improved in their score, 15.8% remained the same and 26.3% of the participants' scores decreased. The remaining 15.7% did not complete the exit questionnaire.


Rosenberg Self Esteem Entry and Exit data from Group A
Entry score
Exit Score
30
20
10
0
1
2
3
4
5
6
7
8
10
11
12
13
14
15
16
17
19
20
21
Participant Number

Exit and Entry comparison - Group B

- 33.3.% of participants' scores improved, 11.1% of scores remained the same and 44.4 % of participants' scores decreased. 11.1% did not complete the exit questionnaire.



Comparatively, the data shows more notable improvements in self-esteem within Group A (physical activity participants) compared to within Group B (control group). These scores, together with the data analysis from daily logs and focus group discussion support the theory that daily physical activity can affect perceived self-esteem in upper key stage 2 pupils.

Conclusion and recommendations

- The project results showed an increase in self-esteem for a selection of participants, compared to those in the control group who did not take part in any extra physical activity throughout the testing period.
- Although the results were not as significantly prominent as hoped, the testing period of daily physical activity helped develop some participants' perceived self-esteem, this in its own right can be viewed as a success.
- This project is intended to run again, developing a research team. The proposed changes are as follows:
    - A larger cohort of participants.
    - A longer testing period over the year.
    - Control groups for each year group.
    - Self-made questionnaires to be constructed with more educator input.
    - Midway quantitative data testing.

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World Health Organisation