

1. Effect of a self-determination modified physical education (PE) intervention on adolescent females' motivation and participation.

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2. The Problem?



3. Three Related Studies/One High School

Study	Aims
1	To measure students' autonomous motivation in relation to their participation in PE.
2	To listen to student voices with the purpose of investigating experiential and other issues surrounding engagement in PE for a group of high school students.
3	To create a pedagogical intervention that is informed by student voices and to test the intervention's effectiveness in a quasi experimental design.



4. Some things student voices told us...

- Gender is influential on how PE experiences are interpreted;
- Females regardless of their motivational orientation dislike wearing mandatory school colours and want to be able to choose what to wear for PE;
- Four key issues that surround engagement in PE for both male and female high school students stood out;
- Being with friends, teacher/student relationships/having a say in the selection of activities/ institutional issues that the school controls

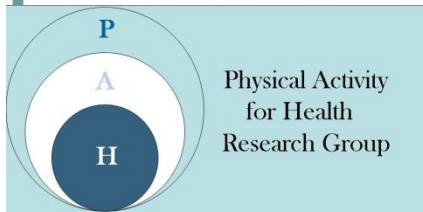
5. Previous Research

- Self-determination Theory and PE is a topical research area;
- Since 2007, six studies in Europe, two in Singapore and one in the USA;
- Questionnaires administered to students at different time points;
- Investigating Self-determination Theory within existing PE provision.



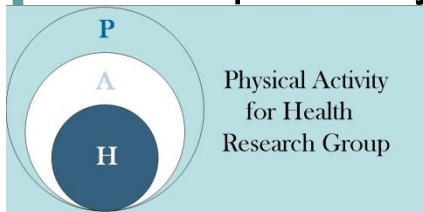
6. Research Questions for Study 3

- Primary...to determine the effect of a self-determination modified physical education intervention, guided by student voice, on adolescent females' motivation and participation;
- Secondary.... to gain insight into the experiences of students and teachers during the intervention using qualitative methods.



7. Participants

- Student participants were recruited from the same cohort used in Study 1, one year on from when data collected for Study 1;
- 34 female high school students (age 15 – 16 years);
- Intervention ($n = 17$), control ($n = 17$);
- The intervention and the control group were randomly selected from existing school PE classes;
- Teacher participants provided personal consent. The teachers responsible for each class volunteered to become the intervention group teacher and the control group teacher;
- Both teacher participants were female, aged 30 and 35 years respectively.



8. Method

- Intervention..... a PE experience guided by student voice within a Self-determination Theory framework;
- Control....standard PE experience;
- Five weeks, two lessons per week;
- Motivation towards PE was measured pre and post using BREQ-2;
- The questionnaire was made accessible for students via a web link
- Responses were converted using subscale-weighting formula (Guay, Mageau & Vallerand,2003) into a Relative Autonomy Index (RAI) (Vallerand & Ratelle, 2002).



9. Method (continued)

- The intervention teacher and the control teacher each kept their own reflective diary and a record of student participation for their class;
- Participant experiences were also collected by means of teacher interviews and a student focus group (intervention group only);
- The process of analysis sought out recurring themes and then systematically categorised them as they emerged from within the raw data.

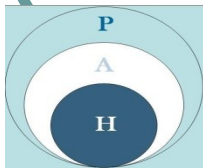
10. Supporting the Intervention Group Teacher

- Meeting before and halfway through intervention;
- Equal contributions to the strategic pedagogical and organisational approaches the teacher would take;
- modifying her behaviour, as suggested by students, to address the psychological needs of autonomy, competence and relatedness

11. Framed within Self-determination

Autonomy
Perceptions of control
over one's situation

- More time on the activities students selected;
- Have a say in the choice of tasks that each lesson is made up of;
- Wear student choice of PE kit;
- When PE is scheduled first thing in the day, students need to come to school wearing their PE kit. When PE is scheduled for last thing in the day, students need to go home wearing it.



Physical Activity
for Health
Research Group

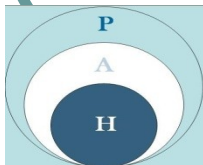


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12. Framed within Self-determination

Competence
Perceptions of being able to interact effectively with one's surroundings

- perform well when other students are able to observe them;
- differentiated lesson content so that students feel they are achieving something;
- challenging tasks that are achievable for each individual student catering for different ability levels;
- non-competitive emphasis when students are learning skills .



Physical Activity
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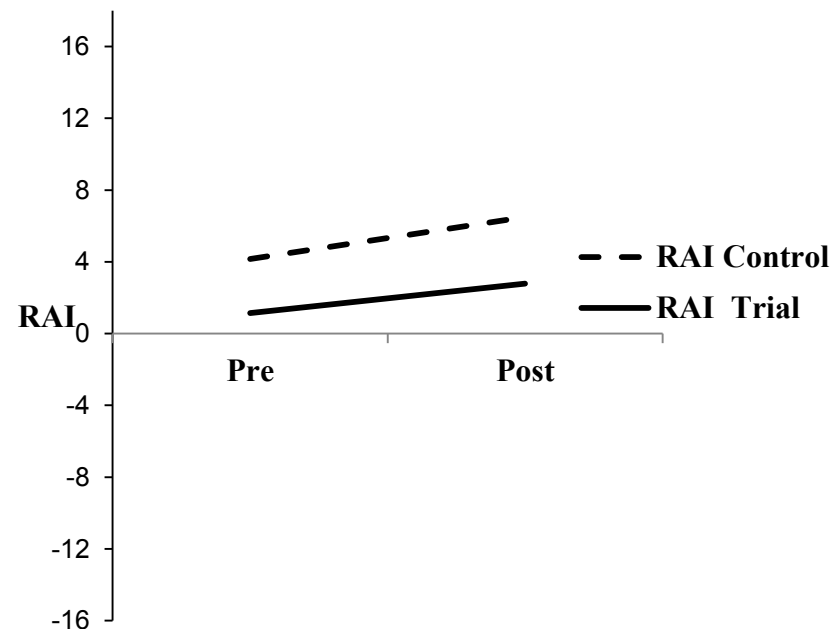
13. Framed within Self-determination

Relatedness
Perceptions of feeling connected to significant others

- organised in groups that are made up of students' friends;
- a teacher who is enthusiastic at all times, who leads by example and who participates in some parts of every lesson;
- avoid confrontation with the teacher;
- a teacher who shows willingness to understand students' perspectives on PE or whole school related matters.

14. Results

- There was a significant increase in mean RAI scores from pre to post ($F_{(1, 32)} = 6.88$, $p = .01$) for both groups;
- The pattern of results for all sub-dimensions was similar. All interaction effects were non-significant ($p > .05$). There were no significant differences from pre to post for all sub-dimensions ($p > .05$). There were no significant differences between groups for all sub-dimensions ($p > .05$).



15. Explanation: Student Focus Group?

- Clear from analysis....differences between the self-determination modified intervention and a standard PE experience were not distinguishable;

Fac: "Em so is it changed in see just before you broke up did you see any major changes in how PE was being taken, was there anything different about it"?

Student: "Nothing at all, nope".

- Majority of comments in SFG were negative about their high school PE experiences. The biggest grievance was what students perceived as teachers' lack of enthusiasm for teaching.



16. SFG Comments

“So you just sit and do nothing so it is as if they just don’t even care whether you do PE or not so there is no point in even trying when you are in PE cos they don’t really care”.

“They don’t, they don’t actually show that they love doing PE”.

“They are not inspirational”.

(Student Focus Group)



17. Study Design?

- Quasi-experiment is both a strength and a weakness;
- Avis effect? (Thomas, Nelson & Silverman, 2011) the control teacher may have tried harder when she taught this class because she perceived that the results of the intervention had the potential to make her look bad;
- Australian study (Hashim, Grove & Whipp, 2008) found when teachers put more into their teaching, this correlated with student enjoyment of PE;
- Similarities between the intervention and the control experience, where the approach taken by the school in delivering physical education to students may have had features of an autonomy supportive environment.



18. Interestingly....

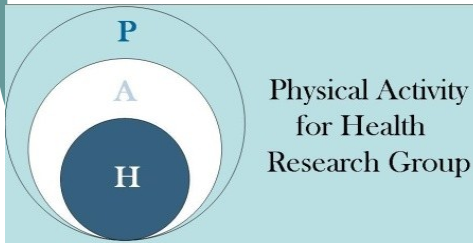
- Participation was significantly higher in the intervention group (84%) than in the control group (75%; $\chi^2_{(1)}=4.23, p < .05$).

	Number of student participations	Number of student non-participations
Control	140 (75%)	46 (25%)
Trial	178 (84%)	35 (16%)

19. What might explain this?

- Corresponding evidence from the intervention teacher's interview and from comments in her reflective diary indicate that she had some success in addressing the needs of autonomy, competence and relatedness in her teaching and that this contributed to the increase in participation;
- Diary: eight references to autonomy support; six to relatedness need satisfaction; three to using differentiation*
- Interview: six references to autonomy support; three references to relatedness need satisfaction; none to using differentiation*

*For differentiation read competence.



20. Addressing Autonomy in PE

- Autonomy; perceptions of control over one's situation:
"Pupils given opportunity to explore a wide range of equipment and to work on something of their choice including hula hoops, ball, ropes, sports acro, gymnastics (horse + mats), dance".
(Intervention teacher diary)
- Other researchers' findings.....
 - surroundings that fostered autonomy held promise for enhanced student learning in PE (Shen et al, 2009);
 - autonomy support fostered self-determination in PE (Lim & Wang, 2009);
 - perceptions of autonomy support given by the PE teacher positively predicted autonomy (Standage & Gillison, 2007).

21. Addressing Relatedness in PE

- Relatedness; perceptions of feeling connected to significant others:

"I am not saying you are out there to be liked by the kids. I don't mean that, but I do think there is a level of if they like the teacher, they are going to want to work for you and take part for you and I had a good relationship with every single one of them".

(Intervention teacher interview)

- Currently a lack of research on relatedness. Its contribution to student motivation in PE subsequently remains unclear;
-precedence should be given to the development of learner competence in tandem with the employment of relatedness, (Sun & Chen, 2010).

22. Addressing Competence in PE

- Competence; perceptions of interacting effectively with one's surroundings:
"All pupils catered for – could re-arrange apparatus to suit".
(Intervention teacher diary)
- Other researchers' findings.....some examples
 - promoting competence cultivated intrinsic motivation (Wang & Lui, 2007);
 - perceived competence impacted positively on student levels of self-determination, (Ommundsen & Kvalo, 2007);
 - decreases in student motivation for PE were addressed by fostering competence need satisfaction, (Ntoumanis et al, 2009).



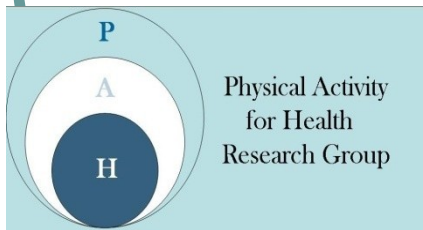
23. The Difference?

- Inconsistent evidence from control teacher; her diary has no references to autonomy support, none to relatedness need satisfaction and none to using differentiation*.
- In contrast, in her interview she made four references to autonomy support, three to relatedness need satisfaction and one to differentiation;
- Interviewee bias (Denzin & Lincoln, 1998; Pole & Lampard, 2002)?
- Participant observation (Bryman, 2008) may be a more effective way of gaining insight into the experiences of physical education teachers?



24. Take Home Message

- Results of this study indicate that a self-determination modified PE intervention does not influence adolescent females' motivation over a 5-week period;
- It does however appear to increase participation;
- Improving teachers' understanding of student motivation for PE, especially adolescent females', remains an important research area (Dyson, 2006; Lake, 2001; Mulvihill, et al., 2000);
- Researchers should continue to use Theory based interventions in the search for evidence based solutions to improve students' motivation for high school PE;
- To expand our knowledge in this important area.



25. End of Presentation

Thank you for listening

