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Extended report

Learning, Teaching, Training Activities (LTTA), Rio Maior, Portugal

C1 The FITeens Experience

20th, 21st, 22nd June 2023

FITeens - Promoting physical activity and healthy habits in sedentary teenagers

2021-1-ES01-KA220-SCH-000027761

FITeens

Promoting physical activity and healthy habits in sedentary teenagers

Learning, Teaching and Training Activities (LTTA)

20th, 21st and 22nd June 2023

School Of Sport Rio Maior (Escola Superior de Desporto de Rio Maior)

Av. Dr. Mário Soares nº 110,
2040-413 Rio Maior, Portugal

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MINUTES of
Learning, Teaching, Training Activities (LTTA), Rio Maior, Portugal
C1 The FITeens Experience
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Project partners

P1. Universidad de Zaragoza
P2. Stichting Kenniscentrum Pro Work
P3. Instituto Politecnico de Santarem
P4. Tartu Ulikool
P5. Innoventum OY
P6. Jaitek Tecnología y Formación S.L.

Minutes of meeting

See below the agenda of the meeting, the topics addressed, and the presentations of contents.

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People attending

From **Universidad de Zaragoza**

- Carlos Mayo Rota
- Sergio Diloy Peña
- Javier García Cazorla

From **Stichting Kenniscentrum Pro Work**

- Angelique Kobessen

From **Instituto Politécnico de Santarem**

- Luis Cid
- Filipe Rodrigues
- José Rodrigues
- Gonçalo Carvalho

From **Tartu Ulikool**

- Henri Tilga
- Andre Koka

From **Innoventum OY**

- Tomasz Szymanski

From **Jaitek Tecnología y Formación S.L.**

- Daniel Pérez Ovejero
- Mariano Sanz Prieto

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Program

19th June – Travel day

20th June

09:30-11:00	Partners reception and welcome Presentation and visit to ESDRM-IPSantarém Briefing about the LTTA activities
11:00-11:30	Coffee break
11:30-13:00	Workshop: Motivational teaching behaviors in PE: a circumplex approach. By Sergio Diloy, Javier Garcia & Carlos Mayo (University of Zaragoza)
13:00-14:30	Lunch time (in School)
14:30-16:00	Workshop: Online and web-based interventions to improve autonomy support in PE teachers. By Henri Tilga & Andre Koka (Tartu University)
16:00-17h30	Visit to Rio Maior Sport Center - High Performance Center, Stadium, Sports Pavilion, Swimming Pool Complex, Paddle and Tennis Courts, and Outdoor Activities Park
After 17:30	Visit to Salinas of Rio Maior (included tasting of regional products/wines and dinner)

21st June

09:30-11:00	Workshop: Motivational determinants of physical education and behavior change intervention to promote physical activity outside school. By Luis Cid and Filipe Rodrigues (ESDRM-IPSantarém)
11:00-11:30	Coffee break
11:30-13:00	Workshop: Strength Training and pilates to help prevent back pain and other postural pathologies among teachers. By Rafael Oliveira and Fátima Ramalho (ESDRM-IPSantarém)
13:00-14:30	Lunch time (in School)
14:30-16:00	Workshop: FITeens App. By Tomasz Szymanski (Innoventum)
After 16:00	Visit to the historic village of Óbidos (included dinner)

22nd June

09:30-11:00	Workshop: Health behaviors development from schools (Part I). By Sergio Diloy, Javier Garcia and Carlos Mayo (University of Zaragoza)
11:00-11:30	Coffee break
11:30-13:00	Workshop: Health behaviors development from schools (Part II). By Sergio Diloy, Javier Garcia and Carlos Mayo (University of Zaragoza)
13:00-14:30	Lunch time (in School)
After 14:30	Free activities

23rd June – Travel day

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Sport Science School of Rio Maior, Polytechnic Institute of Santarém

The LTTA will take place was held in Sport Science School of Rio Maior, Polytechnic Institute of Santarém (ESDRM-IPSantarém).

See more about us:

ESDRM-IPSantarém (https://www.youtube.com/watch?v=9Lh3eLFTAtU)

Rio Maior Sport Center (https://www.youtube.com/watch?v=b82tNvu96uo)

ESDRM-IPSantarém address and location: https://www.ipsantarem.pt/esdrm/contactos/

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City of Rio Maior

The LTTA will take place was held in Sport Science School of Rio Maior, Polytechnic Institute of Santarém (ESDRM-IPSantarém).

The Municipality of Rio Maior, belonging to the District of Santarém, has a total area about 270 km² and 21,000 habitants. The City of Rio Maior, with about 10000 habitants, is known as the "City of Sport", not only for its infrastructures, but also because Sports and Physical Activity are a strategic axis of is development. The city is located just about 85 km from Lisbon (capital of Portugal) and 45 km from Peniche (capital of Surf in Portugal).

See more about Rio Maior city: https://www.turismoriomaior.pt/

Points of interest:

Rio Maior Sport Center (https://desmor.pt/en/); Salinas of Rio Maior; Óbidos Historic Village

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Some pictures of the LTTA:

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FITeens - Promoting physical activity and healthy habits in sedentary teenagers

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LTTA - Rio Maior 20-22 June 2023

List of Participants

Participant	Organization	Signature (20/06/2022)	Signature (21/06/2023)	Signature (22/06/2023)
Angelique Kobessen	Pro-Work			
Daniel Pérez Ovejero	Jaitek			
Tomasz Szymański	INNOVENTUM			
Sergio Diby Peña	Unizar			
Carlos Mayo Rota	UNIZAR			
Javier García Cazorla	UNIZAR			
Andra Koka	University of Tartu			
Henri Tilga	University of Tartu			
Jorge Rodrigues	IPS / CIEQV			
José Rodrigues	IPS / CIEQV			

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List of Participants

Participant	Organization	Signature (20/06/2023)	Signature (21/06/2023)	Signature (22/06/2023)
Luis Rid	IPS/CIFQV			
Mariano Saez Prieto	JAITEK			
Gonçalo Carvalho	IPS / CIFQV			

Workshop: Online and web-based interventions to improve autonomy support in PE teachers

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Henri Tilga and Andre Koka

University of Tartu

Rio Maior, Portugal, 20.06.2023

Presentation plan

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1) 5 different interventions with the common aim to increase interpersonal behaviour:

- web-based autonomy-supportive intervention program to PE teachers
- face-to-face autonomy-supportive intervention program to PE teachers
- combined web-based and face-to-face intervention program to PE teachers
- web-based need-supportive intervention program to PE teachers (based on Teixeira et al., 2020)
- web-based need-supportive intervention program to parents (based on Teixeira et al., 2020)

2) For each of these interventions we briefly introduce the following:

- aim of the study
- study design and participant flow chart
- methods (questionnaires and data analysis)
- results
- conclusions

3) How to prepare and implement these interventions

4) Limitations

5) Future plans

Introduction

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- Interventions for teachers are effective in promoting an autonomy-supportive approach (Su & Reeve, 2011)
- Mostly face-to-face intervention programs; unidimensional approach to training teacher to become more autonomy supportive (e.g., Aelterman et al., 2013; Cheon et al., 2012)
- We adopted a multi-dimensional approach to autonomy support (Stefanou et al., 2004; Tilga et al., 2017) as well as to controlling behaviour of teachers (Bartholomew et al., 2009, 2010; Hein et al., 2015)
- We also adopted a web-based approach – cost-effective, convenient, attendees' anonymity

Autonomy support from the teacher

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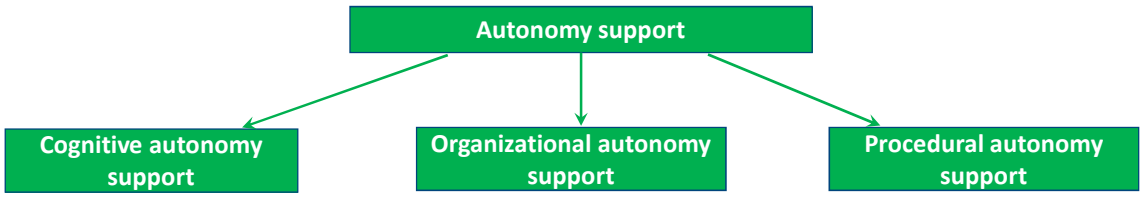

- Offer students with opportunities to argue for their point of view
- Asking students to generate their own solutions, asking students to evaluate their own and others' solutions and ideas

- Offer students with opportunities to choose over environmental procedures such as the equipment and exercise place, tasks to be performed and the way how to execute the task, evaluation procedure

- Offer students with opportunities to choose the way the competence will be demonstrated, to display the work in an individual manner
- Providing students with rationale and explaining a lesson structure

Stefanou et al. (2004); Tilga et al. (2017)

Controlling behaviours from the teacher

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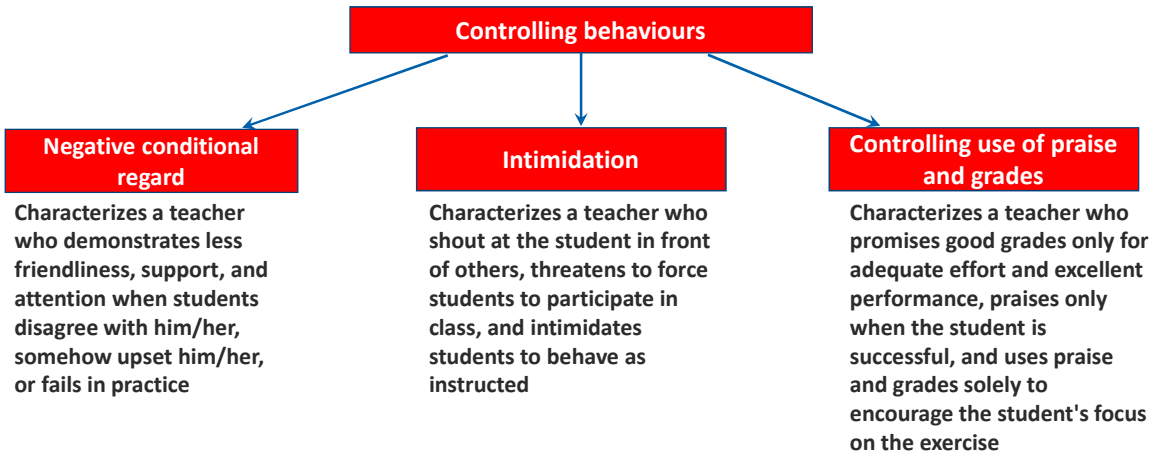

Bartholomew et al. (2009, 2010); Hein et al. (2015)

Objectives of the interventions

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- **Primary objective**
  - ➢ To assist PE teachers to improve the quality of their teaching style:
    - More autonomy supportive towards their students
    - Less controlling towards their students
- **Secondary objective**
  - ➢ To assist PE teachers in creating a learning environment that:
    - Allows students' (aged 11-15 years) basic psychological needs satisfaction
    - Increases students' intrinsic motivation towards PE and PA in general

Research design

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- Web-based intervention (4-week) for PE teachers
- A brief face-to-face intervention (1 day) for PE teachers
- Combined web-based and face-to-face intervention for PE teachers

Web-based intervention (4-week) for PE teachers

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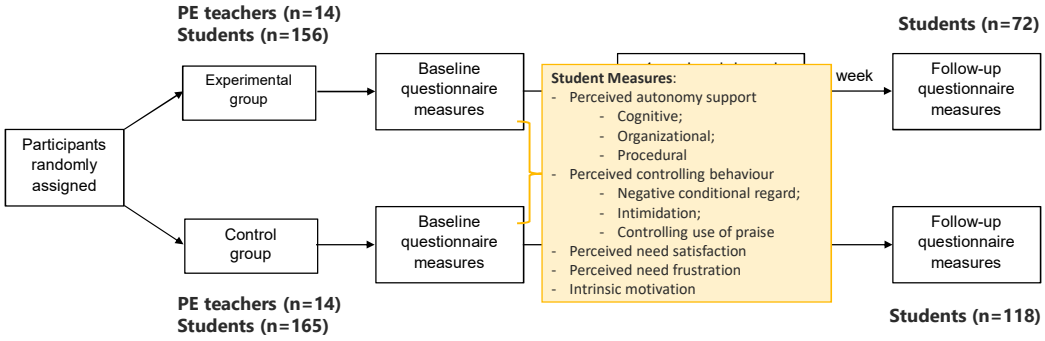

Content of the web-based intervention program

Week 1. Interpersonal behaviour of the teacher (autonomy-supportive vs controlling)
Week 2. Basic psychological needs (BPN) for autonomy, competence, and relatedness
Week 3. Types of motivation according to the SDT, and their relations to BPN
Week 4. Rehearsing all the program material

Source: Tilga, H., Hein, V., Koka, A. (2019). Effects of a Web-based Intervention for PE Teachers on Students' Perceptions of Teacher Behaviors, Psychological Needs and Intrinsic Motivation. *Perceptual and Motor Skills*, 126(3), 559-580.

Brief face-to-face intervention (1 day) for PE teachers

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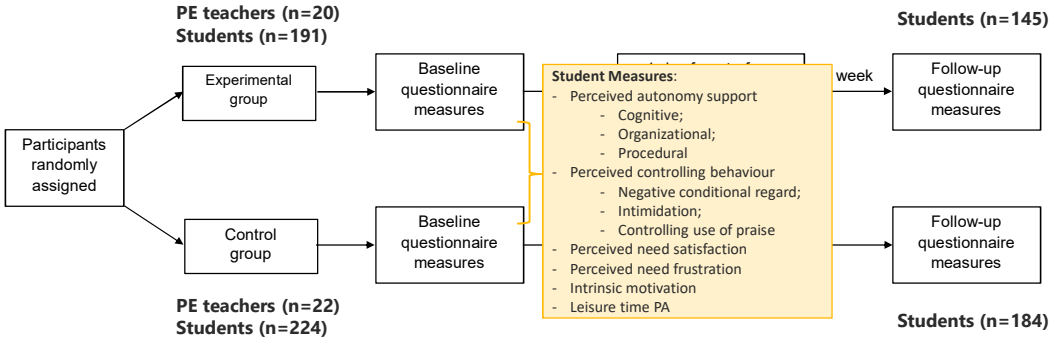

Content of the 1-day (8 contact h) face-to-face intervention program

1. part (theoretical, 4 contact hours). Interpersonal behaviour of the teacher (autonomy-supportive vs controlling); BPN for autonomy, competence, and relatedness; Types of motivation according to the SDT, and their relations to BPN .

2. part (practical, 4 contact hours). Sample lessons (controlling vs autonomy-supportive teaching style); Participants own brief practical lessons and experiences.

Source: Tilga, H., Kalajas-Tilga, H., Hein, V., Raudsepp, L., & Koka, A. (2021). Effects of a brief one-day autonomy-supportive intervention on improving basic psychological needs, motivation, and behaviours of physical activity among middle-school students: A multidimensional approach. *International Journal of Sport Psychology*.

Combined web-based and face-to-face intervention

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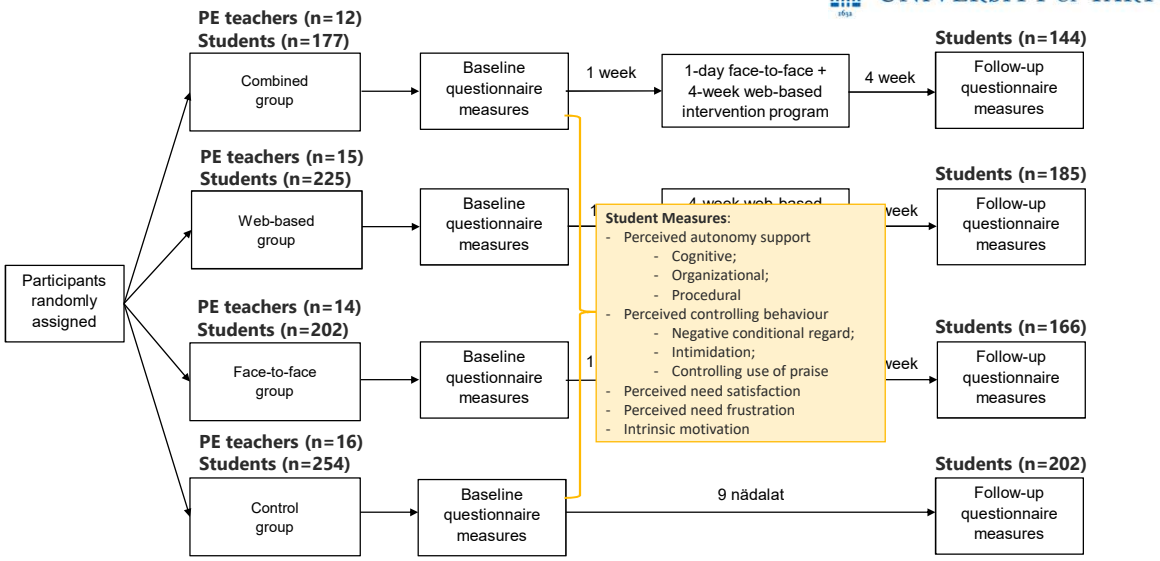

Source: Tilga, H., Kalajas-Tilga, H., Hein, V. & Koka, A. (2021). Web-based and face-to-face autonomy-supportive intervention for physical education teachers and students' experiences. *Journal of Sports Science and Medicine*, 20, 672–683.

Evaluation effectiveness of the intervention programs

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- Intervention was treated as **independent variable**
  - 1 = Control group – teachers continued to teach „as usual“
  - 2 = Experimental group – teachers who participated in the intervention
  - 1 … 4 = in case of the combined intervention study
- Students’ responses to the questionnaire were treated as **dependent variables** (perceived autonomy-support and controlling behaviour; perceived BPN satisfaction and frustration; intrinsic motivation, and leisure time PA)
- Data analyses
  - ANCOVA

Results

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Effects of a web-based intervention on dependent variables

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Table 3. Differences in Psychological Variables Between the Experimental and Control Group at Follow-Up.

Variable	Experimental group ($n = 72$) M (SD)	Control group ($n = 118$) M (SD)	$F(1, 175)$	p	η_p^2
Cognitive autonomy support	5.92 (1.27)	5.12 (1.25)	17.44	.001	0.09
Procedural autonomy support	5.74 (1.34)	5.05 (1.33)	11.45	.001	0.06
Organizational autonomy support	4.95 (1.29)	4.46 (1.28)	6.34	.013	0.04
Negative conditional regard	2.92 (1.80)	3.23 (1.78)	1.33	.250	0.01
Intimidation	1.25 (1.35)	2.11 (1.34)	17.32	.000	0.09
Controlling use of grades	3.52 (1.70)	3.91 (1.68)	2.39	.124	0.01
Autonomy need satisfaction	5.18 (1.48)	4.46 (1.47)	10.21	.002	0.06
Competence need satisfaction	5.54 (1.56)	4.97 (1.55)	5.77	.017	0.03
Relatedness need satisfaction	5.70 (1.30)	5.21 (1.29)	6.12	.014	0.03
Autonomy need frustration	3.31 (1.27)	3.81 (1.26)	6.64	.011	0.04
Competence need frustration	2.96 (1.71)	2.97 (1.70)	0.00	.953	0.00
Relatedness need frustration	2.06 (1.57)	2.49 (1.56)	3.21	.075	0.02
Intrinsic motivation	5.66 (1.74)	5.18 (1.73)	3.22	.075	0.02

Note. M = means adjusted for baseline characteristics; SD = standard deviation; F = univariate Fs testing differences between the experimental and control group at follow-up; p = probability value; η_p^2 = partial eta squared, a measure of the effect size for ANCOVA; ANCOVA: analysis of covariance.

Source: Tilga, H., Hein, V., Koka, A. (2019). Effects of a Web-based Intervention for PE Teachers on Students' Perceptions of Teacher Behaviors, Psychological Needs and Intrinsic Motivation. *Perceptual and Motor Skills*, 126(3), 559-580.

Effects of a face-to-face intervention on dependent variables

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Table 3

Comparisons of the variables between the experimental and control group at follow-up

Variable	Experimental group ($n = 145$) M (SD)	Control group ($n = 184$) M (SD)	$F(1, 328)$	p	η_p^2
Cognitive autonomy support	5.36 (0.64)	5.13 (0.63)	10.36	0.001	0.894
Organisational autonomy support	5.00 (1.08)	4.83 (1.09)	1.94	0.164	0.285
Procedural autonomy support	5.42 (0.46)	5.31 (0.45)	4.43	0.036	0.555
Intimidation	2.17 (0.79)	2.37 (0.78)	5.34	0.021	0.635
Negative conditional regard	2.81 (1.06)	3.06 (1.05)	4.31	0.039	0.544
Controlling use of grades	3.12 (1.02)	3.26 (1.01)	1.47	0.227	0.226
Autonomy need satisfaction	4.93 (0.62)	4.75 (0.61)	6.21	0.013	0.700
Competence need satisfaction	5.15 (0.67)	4.99 (0.68)	4.39	0.037	0.551
Relatedness need satisfaction	5.37 (0.69)	5.29 (0.71)	1.13	0.289	0.185
Autonomy need frustration	3.74 (0.75)	3.92 (0.74)	4.18	0.042	0.531
Competence need frustration	3.48 (0.63)	3.55 (0.62)	0.82	0.367	0.147
Relatedness need frustration	2.66 (0.70)	2.73 (0.71)	0.87	0.350	0.154
Identified regulation	5.32 (0.69)	5.23 (0.68)	1.31	0.254	0.207
Intrinsic motivation	5.16 (0.75)	5.06 (0.74)	1.66	0.198	0.251
Physical activity	4.04 (0.89)	3.92 (0.65)	1.24	0.266	0.199

Source: Tilga, H., Kalajas-Tilga, H., Hein, V., Raudsepp, L., & Koka, A. (2021). Effects of a brief one-day autonomy-supportive intervention on improving basic psychological needs, motivation, and behaviours of physical activity among middle-school students: A multidimensional approach. *International Journal of Sport Psychology*.

Main and interaction effects of a web-based and face-to-face interventions on dependent variables

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Table 1. Pairwise comparisons of the variables between study groups at a one-month follow-up. Data are means (±SD).

Dependent variables	Study groups			
	Combined group	Web-based group	Face-to-face group	Control group
Cognitive autonomy support	6.29 ± 0.67 ^{b**,c**,d***}	6.03 ± 0.68 ^{a**,d**}	6.08 ± 0.67 ^{a**,d***}	5.83 ± 0.67 ^{a***,b**,c***}
Procedural autonomy support	6.14 ± 0.76 ^{b***,c**,d***}	5.81 ± 0.76 ^{a***,d*}	5.90 ± 0.76 ^{a**,d*}	5.65 ± 0.75 ^{a***,b*,c**}
Organisational autonomy support	5.89 ± 0.92 ^{c***,d***}	5.70 ± 0.92 ^{c*,d***}	5.48 ± 0.93 ^{a***,c*,d***}	5.28 ± 0.92 ^{a***,b***,*}
Negative conditional regard	2.15 ± 0.83 ^{b***,c**,d***}	2.57 ± 0.83 ^{a***}	2.46 ± 0.82 ^{a**,d*}	2.67 ± 0.82 ^{a***,c*}
Controlling use of grades	2.95 ± 1.01 ^{b***,c**,d***}	3.41 ± 1.01 ^{a***}	3.35 ± 1.00 ^{a**}	3.52 ± 1.01 ^{a***}
Intimidation	1.29 ± 0.61 ^{d**}	1.35 ± 0.61 ^{d**}	1.34 ± 0.62 ^{d*}	1.50 ± 0.61 ^{a**,b**,c*}
Autonomy need satisfaction	5.55 ± 0.94 ^{c**,d***}	5.36 ± 0.94 ^{d***}	5.26 ± 0.94 ^{a**,d*}	5.02 ± 0.94 ^{a***,b***,c*}
Competence need satisfaction	5.65 ± 0.84 ^{b*,c***,d***}	5.41 ± 0.84 ^{a*,d**}	5.26 ± 0.84 ^{a***}	5.18 ± 0.84 ^{a***,b**}
Relatedness need satisfaction	6.06 ± 0.73 ^{b***,c*,d***}	5.73 ± 0.73 ^{a***}	5.85 ± 0.73 ^{a*,d*}	5.67 ± 0.74 ^{a***,c*}
Autonomy need frustration	2.62 ± 0.95 ^{b*,c**,d***}	2.87 ± 0.95 ^{a*,d**}	2.95 ± 0.94 ^{a**,d*}	3.20 ± 0.94 ^{a***,b**,c*}
Competence need frustration	2.46 ± 1.00 ^{b***,c**,d**}	2.94 ± 0.88 ^{a***}	2.85 ± 0.99 ^{a**,d*}	3.06 ± 0.99 ^{a**,c*}
Relatedness need frustration	1.70 ± 0.73 ^{b*,c**,d***}	1.87 ± 0.73 ^{a*}	1.93 ± 0.73 ^{a**}	2.01 ± 0.74 ^{a***}
Intrinsic motivation	5.63 ± 0.98 ^{b*,c**,d***}	5.41 ± 0.99 ^{a*}	5.31 ± 0.99 ^{a**}	5.25 ± 0.98 ^{a***}

[a] significantly different from the combined group. [b] significantly different from the web-based group. [c] significantly different from the face-to-face group. [d] significantly different from the control group. $*p < 0.05$, $**p < 0.01$, $***p < 0.001$.

Source: Tilga, H., Kalajas-Tilga, H., Hein, V. & Koka, A. (2021). Web-based and face-to-face autonomy-supportive intervention for physical education teachers and students' experiences. *Journal of Sports Science and Medicine*, 20, 672–683.

Summary

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- After the intervention at follow-up
  - PE teachers exhibited more autonomy-supportive behaviours
  - PE teachers exhibited less controlling behaviours
  - Students of the teachers assigned to the experimental groups perceived the learning environment as more supportive to their BPN and intrinsically motivating, compared to students of the teachers assigned to the control group
- These results are based solely on students' perceptions!

Observations of teachers' behaviours are needed!

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Autonomy, competence and relatedness need-supportive interventions

Background (based on Teixeira et al., 2020)

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Delphi study with 18 experts.
21 motivation and behaviour change techniques in health context (SDT based)

Autonomy support - create an environment where students feel volition, personal ownership, and self-endorsement of their learning (example: provide choice)

Competence support - create an environment where students feel capable of achieving their goals (example: clarify expectations)

Relatedness support - create an environment where students feel accepted, understood, and worthy of attention (example: encourage asking of questions)

Reference: Teixeira, et al. (2020). A classification of motivation and behavior change techniques used in self-determination theory-based interventions in health contexts. *Motivation Science, 6*, 438–455. https://doi.org/10.1037/mot0000172

Web-based need-supportive interventions

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The influence of psychological need supportive intervention program for physical education teachers on 7-9 grade students' physical activity-related cognitive and behavioural outcomes and on teachers' teaching experiences

Web-based need-supportive parenting program to promote physical activity in secondary school students

3 master thesis (successfully defended in spring 2023)

2 manuscript in preparation and 1 manuscript submitted for the publication

Aim of the studies

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- To examine whether the intervention program **for PE teachers** would reveal significant differences between the experimental and control group **students** in the following study characteristics:

  autonomy, competence and relatedness support, controlling behaviour, satisfaction and frustration of basic psychological needs, autonomous motivation in physical education and in leisure time, self-reported physical activity.

- To examine whether the intervention program **for PE teachers** would reveal significant differences between the experimental and control group **PE teachers** in the following study characteristics:

  autonomy, competence and relatedness support, controlling behavior, satisfaction of basic psychological needs, intrinsic motivation to teach, and teaching efficacy.

- To examine whether the intervention program **for parents** would reveal significant differences between the experimental and control group **children** in the following study characteristics:

  autonomy, competence and relatedness support, controlling behavior, satisfaction and frustration of basic psychological needs, different forms of motivation, theory of planned behaviour constructs, physical activity (self-reported and accelerometer-based)

Study design and participant flow chart for PE teachers' intervention

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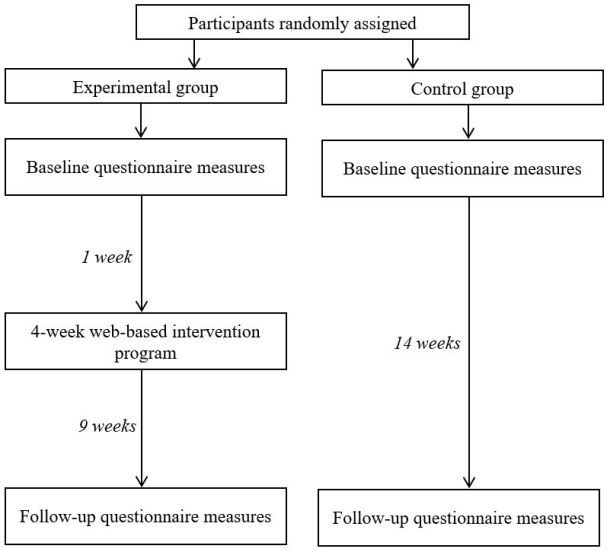

Figure 1. Overall study design.

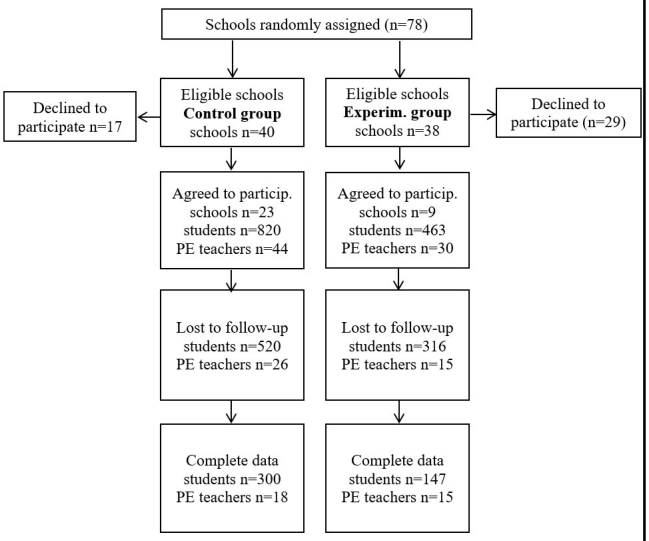

Figure 2. Participant flow chart.

Study design and participant flow chart for parents' intervention

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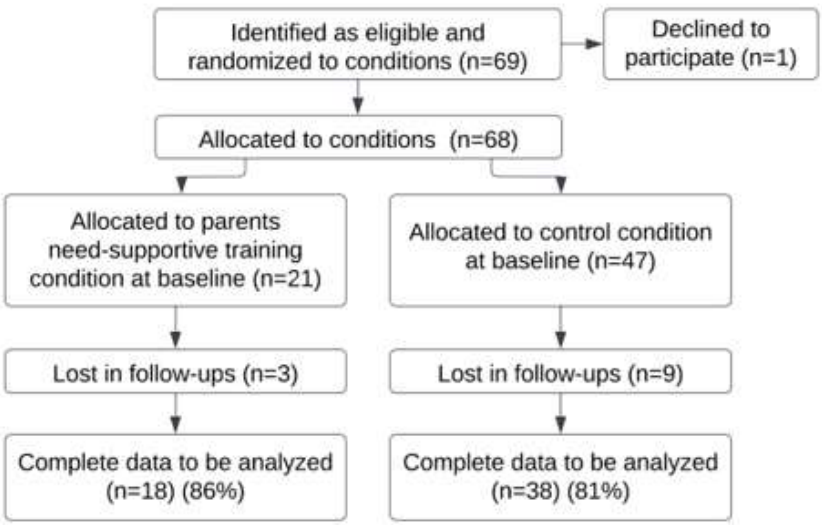

Methods

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- Online questionnaires (Likert-type scale)
- The analysis of covariance
- 4-week web-based intervention program videos in the Moodle environment:
  - Autonomy support in PE (example technique: prompt identification of sources of pressure for behaviour change), video link - https://youtu.be/SsswenAuBz8
  - Competence support in PE (example technique: explore ways of dealing with pressure), video link – https://youtu.be/H6kIdJRc8mY
  - Relatedness support in PE (example technique: providing opportunities for ongoing support), video link - https://youtu.be/7Ytj4SL5tYs
  - Autonomy support from a parent (example technique: use noncontrolling, informational language), video link - https://youtu.be/5gTTz6l19qA?t=71

Results (students' outcomes)

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Table 3. Comparisons of the variables within study groups at follow-up (control group, n=300; experimental group, n=147).

	Baseline	Follow-up		
Variable/study group	M (SD)	M (SD)	*t*	*p*
Autonomy support				
Control group	5.15 (1.34)	4.92 (1.32)	3.31	0.001
Experimental group	5.23 (1.33)	5.26 (1.22)	1.19	0.238
Competence support				
Control group	5.31 (1.40)	5.01 (1.39)	4.48	<0.001
Experimental group	5.34 (1.42)	5.38 (1.32)	0.72	0.472
Relatedness support				
Control group	5.09 (1.40)	4.98 (1.36)	2.59	0.010
Experimental group	5.18 (1.42)	5.29 (1.23)	0.40	0.688
Controlling behaviour				
Control group	4.49 (1.18)	4.36 (1.23)	1.40	0.162
Experimental group	4.49 (1.14)	4.28 (1.18)	1.26	0.211
Psychological need satisfaction				
Control group	4.78 (1.21)	4.74 (1.16)	1.07	0.284
Experimental group	4.85 (1.21)	4.88 (1.21)	1.62	0.108
Psychological need frustration				
Control group	3.41 (1.08)	3.41 (1.07)	-0.83	0.405
Experimental group	3.49 (1.18)	3.46 (1.24)	-0.70	0.483
Autonomous motivation in PE				
Control group	4.83 (1.59)	4.74 (1.49)	1.29	0.198
Experimental group	5.00 (1.58)	5.18 (1.50)	0.93	0.355
Autonomous motivation in LT				
Control group	5.07 (1.52)	5.02 (1.49)	-0.44	0.657
Experimental group	5.36 (1.37)	5.23 (1.50)	1.29	0.199
Self-reported physical activity				
Control group	3.89 (1.26)	3.90 (1.15)	-1.10	0.273
Experimental group	4.05 (1.23)	3.96 (1.30)	-0.19	0.852

Note. PE=physical education; LT=leisure time

Table 4. Comparisons of the variables between study groups at follow-up.

Variables	Control group (n=300) M (SD)	Experimental group (n=147) M (SD)	*F*(1, 444)	*p*
Autonomy support	4.92 (1.32)	5.26 (1.22)	4.09	0.044
Competence support	5.01 (1.39)	5.38 (1.32)	7.27	0.007
Relatedness support	4.98 (1.36)	5.29 (1.23)	4.10	0.044
Controlling behaviour	4.36 (1.23)	4.28 (1.18)	0.13	0.722
Psychological needs satisfaction	4.74 (1.16)	4.88 (1.21)	0.02	0.904
Psychological needs frustration	3.41 (1.07)	3.46 (1.26)	0.11	0.740
Autonomous motivation in PE	4.74 (1.49)	5.18 (1.50)	1.99	0.159
Autonomous motivation in LT	5.02 (1.49)	5.23 (1.50)	0.12	0.730
Self-reported physical activity	3.90 (1.15)	3.96 (1.30)	0.00	0.981

Note. PE=physical education; LT=leisure time.

Results (PE teachers' outcomes)

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Table 3. Comparisons of the variables within study groups at follow-up.

Variable/study group	Baseline M (SD)	Follow-up M (SD)	*t*	*p*
Autonomy support				
Experimental group	5.94 (0.48)	6.66 (0.34)	-3.55	0.003
Control group	6.09 (0.45)	6.06 (0.57)	0.15	0.879
Controlling behaviour				
Experimental group	3.80 (1.22)	3.15 (1.11)	1.66	0.119
Control group	3.92 (0.75)	3.66 (1.12)	0.74	0.470
Competence support				
Experimental group	6.67 (0.44)	6.70 (0.36)	-0.21	0.834
Control group	6.34 (0.61)	6.14 (0.68)	1.15	0.265
Relatedness support				
Experimental group	6.37 (0.67)	6.51 (0.52)	-0.48	0.636
Control group	6.39 (0.67)	6.12 (0.59)	0.84	0.413
Psychological need satisfaction				
Experimental group	5.81 (0.69)	5.72 (0.57)	0.32	0.756
Control group	5.74 (0.75)	5.49 (0.60)	1.15	0.267
Intrinsic motivation to teach				
Experimental group	5.83 (0.85)	6.18 (0.58)	-1.22	0.242
Control group	5.92 (0.56)	5.50 (1.05)	1.27	0.222
Teaching efficacy				
Experimental group	7.53 (0.99)	8.23 (0.95)	-1.66	0.118
Control group	7.55 (1.10)	7.18 (1.17)	0.83	0.418

Table 4. Comparisons of the variables between study groups at follow-up.

Variable	Experimental group (n = 15) M (SD)	Control group (n = 18) M (SD)	F (1,33)	p
Autonomy support	6.65 (0.50)	6.07 (0.47)	11.43	0.002
Controlling behaviour	3.15 (1.12)	3.67 (1.14)	1.69	0.203
Competence support	6.71 (0.58)	6.13 (0.59)	7.82	0.009
Relatedness support	6.50 (0.50)	6.18 (0.12)	3.50	0.071
Psychological need satisfaction	5.73 (0.58)	5.50 (0.51)	1.29	0.266
Intrinsic motivation to teach	5.89 (0.89)	5.40 (0.89)	2.22	0.146
Teaching efficacy	8.23 (1.01)	7.19 (0.98)	8.93	0.006

Results (parents' intervention)

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Table 3. Differences in study variables between the intervention and control group across three measuring occasions.

Dependent variables	Baseline M (SD)	Post-intervention M (SD)	Follow-up M (SD)	F[a]	Partial η^2 [(a)]	F[b]	Partial η^2 [(b)]	F[c]	Partial η^2 [(c)]
Intrinsic motivation				3.095*	0.069	1.003	0.023	0.078	0.002
Control group (n=29)	5.52 (1.36)	5.64 (1.28)	5.53 (1.30)						
Intervention group (n=16)	5.63 (1.43)	5.25 (1.58)	5.63 (1.34)						
Introjected regulation				3.107*	0.066	0.317	0.007	0.405	0.009
Control group (n=30)	4.23 (1.89)	4.45 (1.71)	4.70 (1.56)						
Intervention group (n=17)	4.29 (1.69)	3.94 (1.70)	3.62 (1.69)						
Intention				4.838**	0.103	2.497	0.056	1.397	0.032
Control group (n=28)	5.66 (1.47)	5.29 (1.58)	5.82 (1.35)						
Intervention group (n=17)	6.15 (0.70)	5.88 (1.02)	5.56 (1.47)						
Effort				3.473**	0.080	2.709	0.063	0.022	0.000
Control group (n=26)	5.08 (1.39)	4.60 (1.36)	4.90 (1.18)						
Intervention group (n=17)	5.29 (1.34)	4.65 (1.51)	4.65 (1.66)						
Autonomy frustration				2.987*	0.066	0.095	0.002	0.021	0.000
Control group (n=29)	2.78 (1.25)	2.50 (1.12)	3.16 (1.54)						
Intervention group (n=16)	3.00 (1.19)	2.83 (1.05)	2.61 (0.99)						

Conclusions

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- Web-based need-supportive intervention for PE teachers was effective to produce changes in:
  - Students' perceptions of autonomy, competence and relatedness support from their PE teacher
  - PE teachers' perceptions of autonomy and relatedness support and teaching efficacy
- Web-based need-supportive intervention for parents was effective to produce changes in:
  - Adolescents' perceptions of intrinsic motivation, introjected regulation, intention, effort, autonomy frustration.
- Based on previous research combined interventions are recommended in future research.

How to prepare and implement these interventions

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- **Approval from the local Ethical committee**
- **Communication with school principals, PE teachers, parents and students (informed consent forms via REDCap environment)**
- **Data collection – University of Tartu REDCap environment (https://redcap.ut.ee/)**
- **Web-based intervention program in the Moodle (starts with overall introduction video followed by specific videos on motivational techniques)**
  - **PE teachers/parents watch videos, make forum posts based on their predetermined tasks, and complete short questionnaires**
- **One day face-to-face intervention program (8-hour workshop)**
  - **Basics of SDT (part 1), introduction of specific behaviours (part 2), example PE lessons for PE teachers (part 3), example PE lessons from PE teachers (part 4)**

Limitations

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- Large dropout due to online approach (web-based intervention and online questionnaire)
- Girls are more likely to participate
- Difficult to recruit participants for the parents intervention
- Self-reported vs accelerometer-based physical activity measurement
- No observation (only self-reported data)
- Effectiveness tested only in the Estonian context

Future plans

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- combined web-based need-supportive intervention program for PE teachers and parents (based on Teixeira et al., 2020)
- combined web-based and face-to-face need-supportive intervention program for PE teachers (based on Ahmadi et al., 2023)
- Teixeira et al., (2020) vs Ahmadi et al., (2023) classification system:
  - Health vs educational context (adapted to PE context by Ferriz et al., 2023)
  - More experts involved in Delphi study – 18 vs 34 international experts
  - Need-supportive vs need-supportive and need-thwarting techniques
  - More motivation techniques – 21 vs 57
  - 3 years more recent publication

Reference: Ahmadi, A., Noetel, M., Parker, P., Ryan, R. M., Ntoumanis, N., Reeve, J., Beauchamp, M., Dicke, T., Yeung, A., Ahmadi, M., Bartholomew, K., Chiu, T. K. F., Curran, T., Erturan, G., Flunger, B., Frederick, C., Froiland, J. M., González-Cutre, D., Haerens, L., … Lonsdale, C. (2023). A classification system for teachers' motivational behaviors recommended in self-determination theory interventions. Journal of Educational Psychology. https://doi.org/10.1037/edu0000783

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Thank you!

POLITÉCNICO DE LEIRIA

POLITÉCNICO DE SANTARÉM
ESCOLA SUPERIOR DE DESPORTO DE RIO MAIOR

cieqv centro de investigação em qualidade de vida

Co-funded by the European Union

FITeens

Learning, Teaching, Training Activities (LTTA), Rio Maior, Portugal
C1 The FITeens Experience
20th, 21st, 22nd June 2023

FITeens
Promoting physical activity and healthy habits in sedentary teenagers
2021-1-ES01-KA220-SCH-000027761

Behavior change intervention to promote physical activity outside school

Luís Cid (PhD) luiscid@esdrm.ipsantarem.pt
Filipe Rodrigues (PhD) filipe.rodrigues@ipleiria.pt

SUMMARY

Motivational determinants of PE grades and intentions to pratice sport in future:

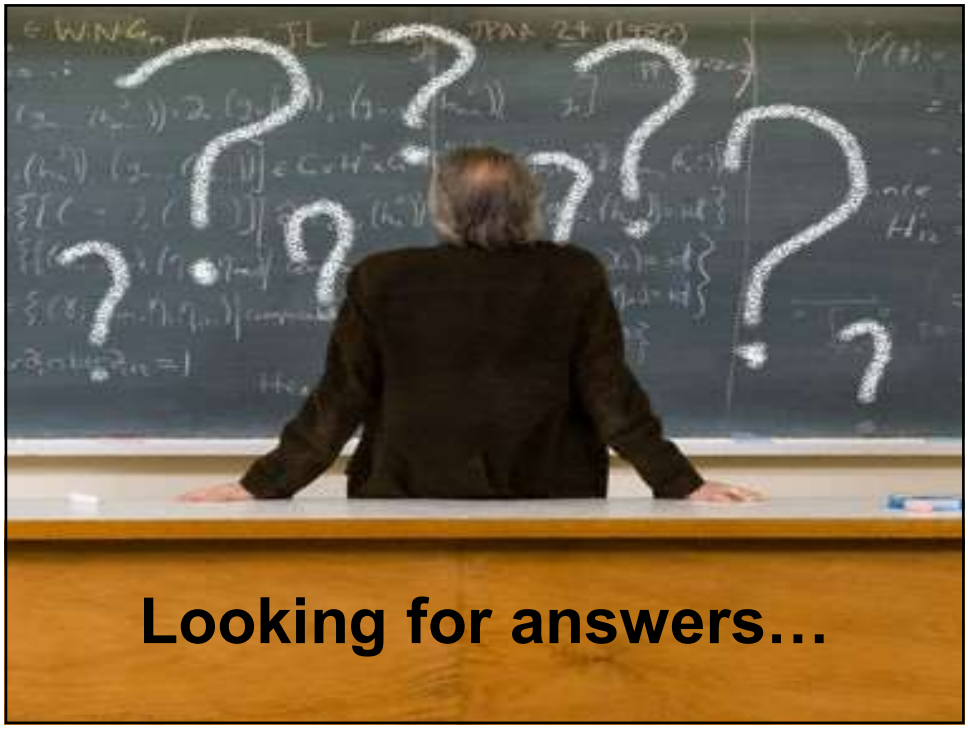
- Cid et al. (2019)

Sociocognitive Models:

- Transtheoretical Model of Behavior Change
- Habit Theory

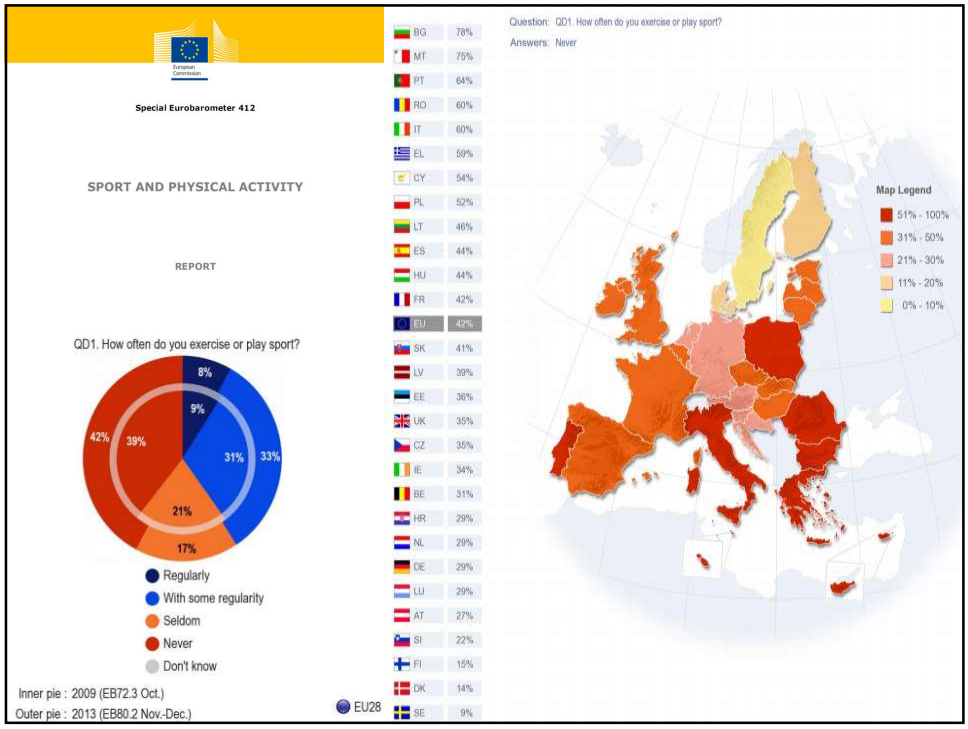
Behavioral Change Techniques:

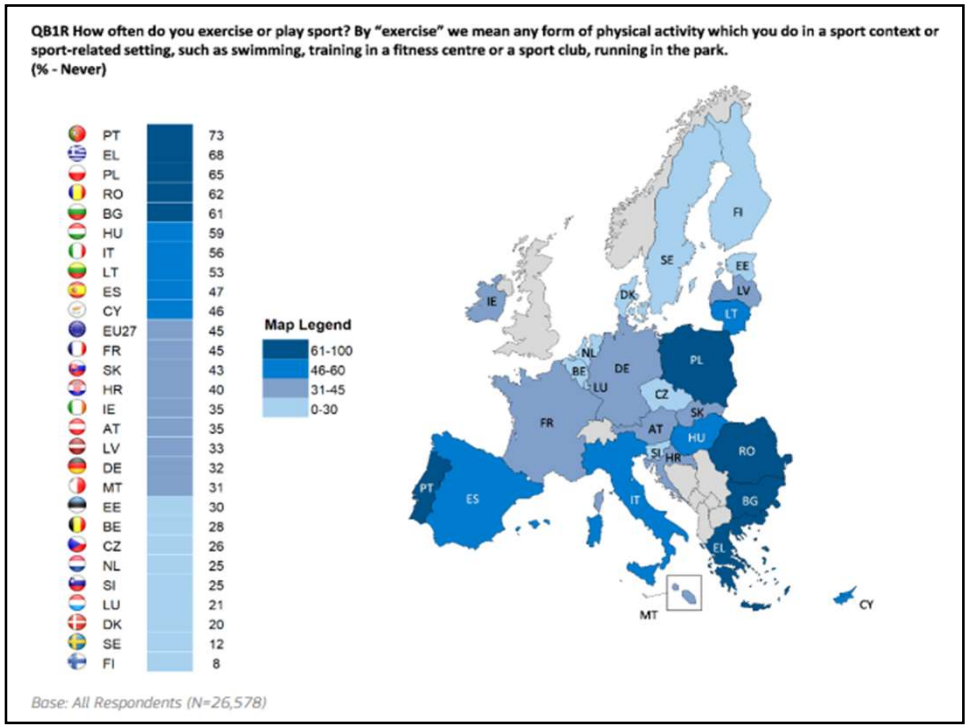
- Decisional Balance
- S.M.A.R.T.
- Action Plan



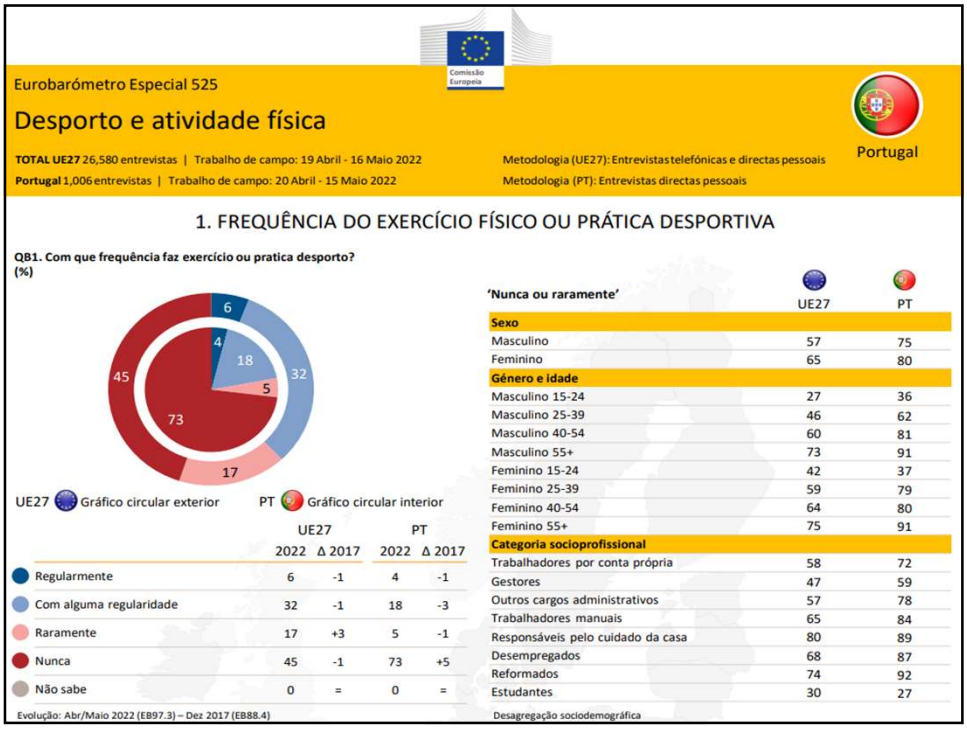
…motivational determinants…

…PA and healthy lifestyle.


Special Eurobarometer 412
SPORT AND PHYSICAL ACTIVITY
REPORT
QD1. How often do you exercise or play sport?
8%
9%
31%
33%
21%
17%
42%
39%
Regularly
With some regularity
Seldom
Never
Don't know
Inner pie : 2009 (EB72.3 Oct.)
Outer pie : 2013 (EB80.2 Nov.-Dec.)
EU28
BG 78%
MT 75%
PT 64%
RO 60%
IT 60%
EL 59%
CY 54%
PL 52%
LT 46%
ES 44%
HU 44%
FR 42%
EU 42%
SK 41%
LV 39%
EE 36%
UK 35%
CZ 35%
IE 34%
BE 31%
HR 29%
NL 29%
DE 29%
LU 29%
AT 27%
SI 22%
FI 15%
DK 14%
SE 9%
Question: QD1. How often do you exercise or play sport?
Answers: Never
Map Legend
51% - 100%
31% - 50%
21% - 30%
11% - 20%
0% - 10%


QB1R How often do you exercise or play sport? By "exercise" we mean any form of physical activity which you do in a sport context or sport-related setting, such as swimming, training in a fitness centre or a sport club, running in the park.
(% - Never)
PT 73
EL 68
PL 65
RO 62
BG 61
HU 59
IT 56
LT 53
ES 47
CY 46
EU27 45
FR 45
SK 43
HR 40
IE 35
AT 35
LV 33
DE 32
MT 31
EE 30
BE 28
CZ 26
NL 25
SI 25
LU 21
DK 20
SE 12
FI 8
Map Legend
61-100
46-60
31-45
0-30
Base: All Respondents (N=26,578)

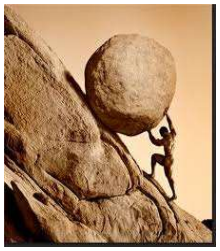

European Commission
Special Eurobarometer 525 - 97.3
Sport and Physical Activity
Frequency of exercise (In %)
2022 2017
EU27
Regularly 6 7
With some regularity 32 33
Seldom 17 14
Never 45 46
Differences for 2022... (In %)
Gender
Woman Man
Age
15-24 25-39 40-54 55+
Finish education at
15- 16-19 20+
Regularly 5 8 12 6 6 5 4 5 8
With some regularity 30 35 54 42 32 21 13 25 42
Seldom 16 17 15 20 21 13 9 18 19
Never 49 40 19 32 41 61 74 52 31


Comissão Europeia
Eurobarómetro Especial 525
Desporto e atividade física
Portugal
TOTAL UE27 26,580 entrevistas | Trabalho de campo: 19 Abril - 16 Maio 2022
Portugal 1,006 entrevistas | Trabalho de campo: 20 Abril - 15 Maio 2022
Metodologia (UE27): Entrevistas telefónicas e directas pessoais
Metodologia (PT): Entrevistas directas pessoais
1. FREQUÊNCIA DO EXERCÍCIO FÍSICO OU PRÁTICA DESPORTIVA
QB1. Com que frequência faz exercício ou pratica desporto? (%)
6 4 18 32 5 45 73 17
UE27 Gráfico circular exterior
PT Gráfico circular interior
UE27 PT
2022 Δ 2017 2022 Δ 2017
Regularmente 6 -1 4 -1
Com alguma regularidade 32 -1 18 -3
Raramente 17 +3 5 -1
Nunca 45 -1 73 +5
Não sabe 0 = 0 =
Evolução: Abr/Maio 2022 (EB97.3) – Dez 2017 (EB88.4)
'Nunca ou raramente'
UE27 PT
Sexo
Masculino 57 75
Feminino 65 80
Género e idade
Masculino 15-24 27 36
Masculino 25-39 46 62
Masculino 40-54 60 81
Masculino 55+ 73 91
Feminino 15-24 42 37
Feminino 25-39 59 79
Feminino 40-54 64 80
Feminino 55+ 75 91
Categoria socioprofissional
Trabalhadores por conta própria 58 72
Gestores 47 59
Outros cargos administrativos 57 78
Trabalhadores manuais 65 84
Responsáveis pelo cuidado da casa 80 89
Desempregados 68 87
Reformados 74 92
Estudantes 30 27
Desagregação sociodemográfica

What is motivation?

Motivation give energy (Wang & Biddle, 2007) **to our behaviour** (Wang & Biddle, 2007) **and works like a engine for achivement** (Weinberg & Gould, 2007). **Give us…**

Direction

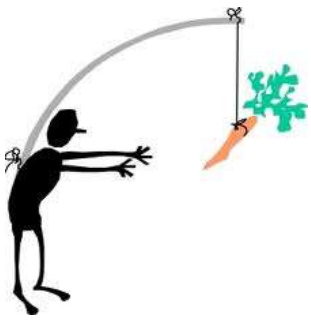


Intensity

Persistence

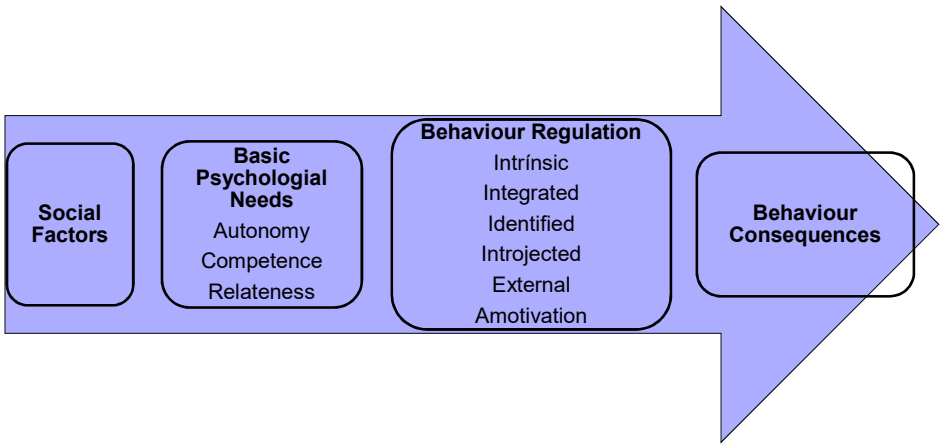
Motivation

Is not a question about quantity
But a question about quality



Self-Determination Theory

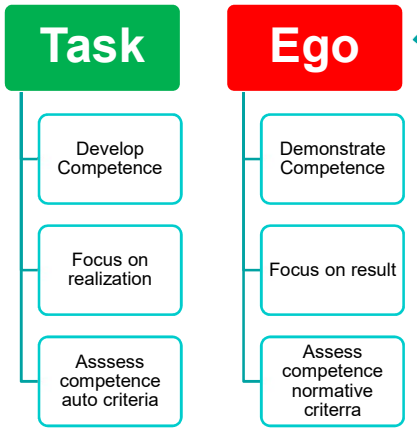
Deci & Ryan (1985)



Achievement Goal Theory

Nicholls (1984, 1989)

Basis on the existence of two types for achieving goals, reflecting the criteria by which people assess their competence and define success or failure of their participation in a specific domain (e.g., in PE classes).



At the contextual level, we can define the concept of motivational climate as the psychological environment induced by significant others in a specific context

PLOS ONE

OPEN ACCESS

Citation: Cid L, Pires A, Borrego C, Duarte-Mendes P, Teixeira DS, Moutão JM, et al. (2019) Motivational determinants of physical education grades and the intention to practice sport in the future. PLoS ONE 14(5): e0217218. https://doi.org/10.1371/journal.pone.0217218

RESEARCH ARTICLE

Motivational determinants of physical education grades and the intention to practice sport in the future

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* luiscid@esdrm.ipsantarem.pt

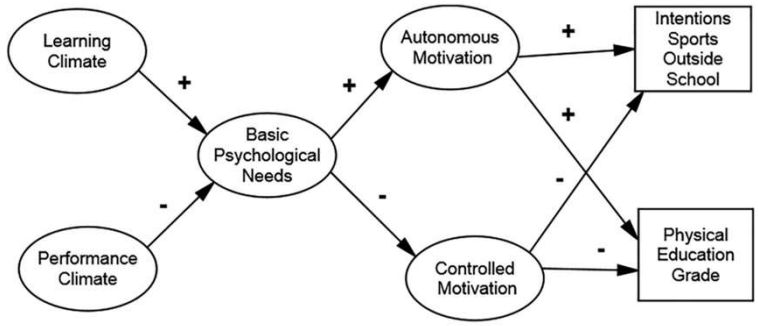


Fig 1. Hypothesized model.

Table 1. Relevant sample characteristics.

N	Ages	Gender		School Level	School Extracurricular Sport Activities	Sports Practiced outside of School
		male	female			
618	10–18 (M = 13.33;SD = 1.69)	290	328	6th (n = 213) 7th (n = 139) 8th (n = 159) 9th (n = 107)	96	310

Note. N = sample size; M = mean; SD = standard deviation

RESULTS

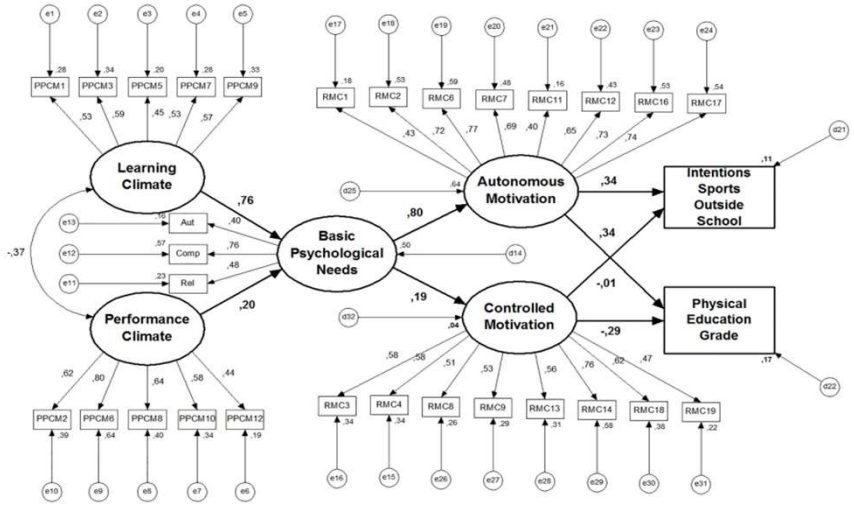


Fig 2. Model 1 (initially hypothesized) with standardized individual parameters.

SB χ^2	df	p	SBχ^2/df	SRMR	NNFI	CFI	RMSEA	90% IC
1293.3	427	.000	3.02	.10	.80	.82	.057	.054-.061

RESULTS

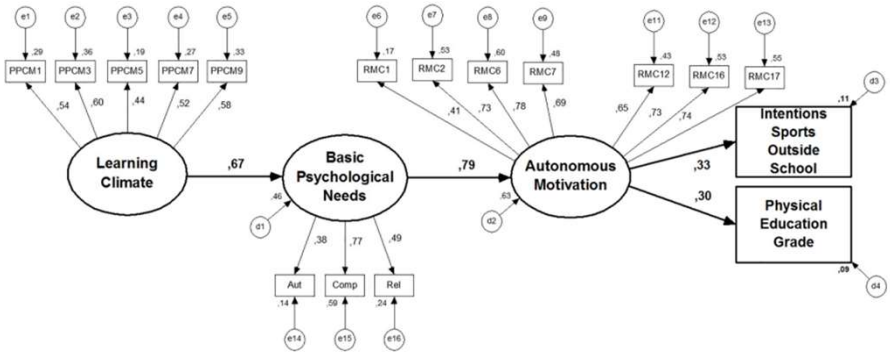


Fig 3. Model 2 (After elimination of the variables that cause instability in the model). Standardized individual parameters.

SB χ^2	df	p	SBχ^2/df	SRMR	NNFI	CFI	RMSEA	90% IC
330.8	117	.000	2.82	.05	.89	.90	.054	.047-061

RESULTS

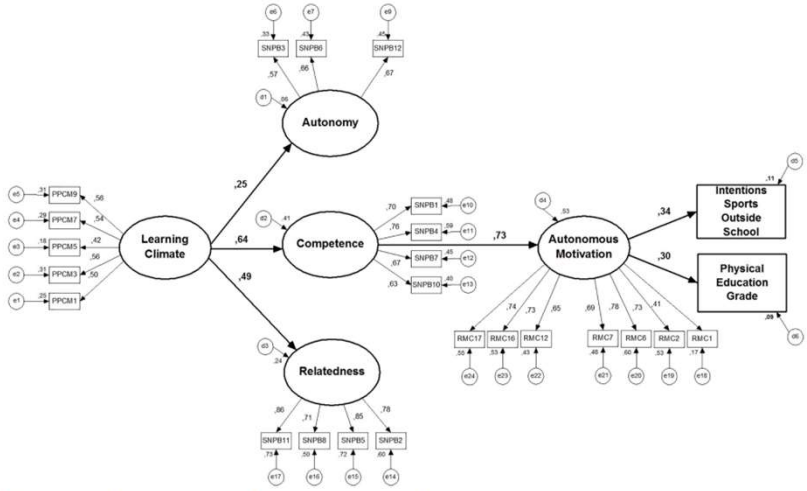


Fig 4. Model 3 (with the basic psychological needs analysed separately). Standardized individual parameters.

SB χ^2	df	p	SBχ^2/df	SRMR	NNFI	CFI	RMSEA	90% IC
659.6	271	.000	2.43	.07	.90	.91	.048	.044-053

CONCLUSIONS and Pratical Implications

1. In order to encourage a learning motivational climate, teachers can focus activities in the action itself and not on the result, so that students care more for the personal development of their motor skills / abilities.

Furthermore, cooperation between pairs (the task interdependence) should be emphasized, decreasing thereby the almost innate tendency of students to demonstrate their skills to others.

CONCLUSIONS and Pratical Implications

2. Teachers should increase the choice option in their students when facing tasks for developing autonomy. Pair work and small groups facilitate this process. Teachers must likewise explain to the students about the tasks to be undertaken, giving them the opportunity to choose the best way of performing

CONCLUSIONS and Pratical Implications

Teachers should whenever possible address the students in a rational and logic explanation of the PE importance, facilitating the development of the identified regulation… …and help to get more fun.

TRANSTHEORETICAL MODEL OF BEHAVIOR CHANGE

TRANSTHEORETICAL MODEL OF BEHAVIOR CHANGE

PRECONTEMPLATION

The adolescent is:

- Uninformed about the consequences of their behavior;
- Attempts to change but without success;
- Becomes demoralized about their ability to change;
- Has a negative experience and/or dislikes the healthy behavior in question.

TRANSTHEORETICAL MODEL OF BEHAVIOR CHANGE

The adolescent:

- is overweight and has n intention of starting a physical activity program;
- spends their time engaged in virtual interactions and has no intention of socializing in real-life settings;
- consumes excessively alcohol without the slightest concern for the inherent risks of the behavior.

TRANSTHEORETICAL MODEL OF BEHAVIOR CHANGE

CONTEMPLATION

The adolescent in this stage:

- Is aware of the positive effects of engaging in healthy behaviors;
- Is also aware that they will have to give up other behaviors;
- Has some intention (even if minimal) to initiate the behavior, with some degree of likelihood that the behavior will be performed in the future.

TRANSTHEORETICAL MODEL OF BEHAVIOR CHANGE

The adolescent:

- Researches the benefits of the new behavior;
- Recognizes the need for change Regarding their current physical and/or psychological state;
- Weighs the pros vs. cons of the new behavior.

TRANSTHEORETICAL MODEL OF BEHAVIOR CHANGE

PREPARATION

The adolescent in this stage:

- Has already initiated some physical effort in seeking information for behavioral change;
- Has an action plan to start the healthy behavior;
- Has stronger intentions to change risky behaviors into ones that are beneficial for health.

TRANSTHEORETICAL MODEL OF BEHAVIOR CHANGE

The adolescent:

- Explores different physical activities or sports options available in their community or school and considering which ones align with their interests and preferences;
- Seeks guidance from a parent or teacher for advice on how to make positive changes in their lifestyle;
- Researches information about healthy eating habits, such as reading books;
- Uses technology resources, such as fitness apps or tracking devices, to monitor progress and track exercise routines.

TRANSTHEORETICAL MODEL OF BEHAVIOR CHANGE

ACTION

The adolescent in this stage:

- Exercises regularly, but for a duration shorter than the 6-month criterion;
- Is actively engaging in the behavior, although some instability may still be present;
- Has made lifestyle changes, demonstrating a greater willingness to sustain the behavior in the future.

TRANSTHEORETICAL MODEL OF BEHAVIOR CHANGE

The adolescent:

- Engages in regular physical exercise, such as going for a run or participates in team sports, for at least a few times a week;
- Adopts healthier eating habits, such as consuming more fruits and vegetables, reducing processed food intake, and making mindful choices about portion sizes;
- Quits smoking and implements strategies to manage cravings and withdrawal symptoms, such as using nicotine replacement therapy or seeking support from smoking cessation programs.

TRANSTHEORETICAL MODEL OF BEHAVIOR CHANGE

MAINTENANCE
The adolescent in this stage:

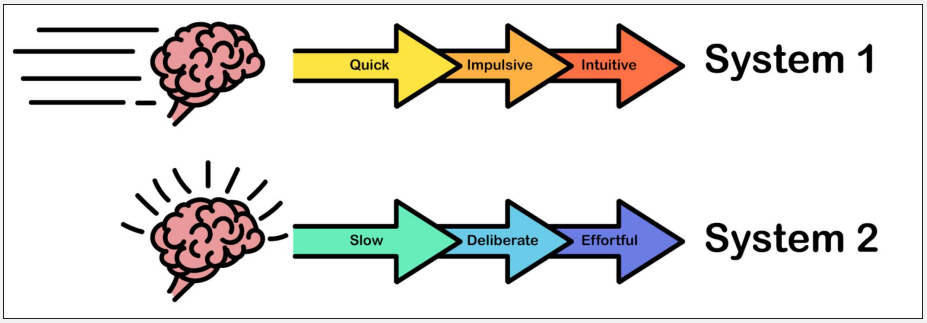
- Has achieved the 6-month criterion, making it more challenging to return to the previous behavior;
- Is actively working to avoid relapse, as returning to a previous stage is always a concern;
- Has integrated the behavior and will with some nuances go back to the previous path - behavior, with the majority attempting behavior change again through the action phase (15%).

TRANSTHEORETICAL MODEL OF BEHAVIOR CHANGE

The adolescent:

- Prioritizes adequate sleep by following a consistent sleep schedule and practices good sleep hygiene habits, such as avoiding electronic devices before bedtime and creating a calm and comfortable sleep environment;
- Maintains a balanced and nutritious diet, including consuming a variety of fruits, vegetables, whole grains, lean proteins, and healthy fats, while minimizing the intake of processed and sugary foods;
- Seeks and maintains a supportive social network, which may involve maintaining positive relationships with friends, family, and mentors who encourage and support their healthy behaviors.

HABIT THEORY



HABIT THEORY

Based on scientific evidence, there are several factors that contribute to habit formation. Here are some key factors:

Repetition

Context and cues

Rewards and reinforcement

Consistency and routine

Implementation intentions

HABIT THEORY

Based on scientific evidence, there are several factors that contribute to habit formation. Here are some key factors:

Repetition: Consistently repeating a behavior increases the likelihood of it becoming a habit. The more frequently a behavior is performed, the more likely it is to become automatic and habitual.

Context and cues: Habits are often triggered by specific cues or environmental stimuli. These cues can be visual, auditory, or situational factors that prompt the performance of a habit. For example, seeing a toothbrush in the bathroom can trigger the habit of brushing teeth.

HABIT THEORY

Based on scientific evidence, there are several factors that contribute to habit formation. Here are some key factors:

Rewards and reinforcement: Habits are reinforced by the rewards or positive outcomes associated with the behavior. When a behavior is followed by a rewarding experience, it reinforces the habit loop and makes it more likely to be repeated in the future.

Consistency and routine: Engaging in a behavior consistently as part of a routine helps solidify it as a habit. Establishing a regular schedule and sticking to it increases the likelihood of habit formation.

HABIT THEORY

Based on scientific evidence, there are several factors that contribute to habit formation. Here are some key factors:

Implementation intentions: Setting specific and detailed plans for when, where, and how to perform a behavior can increase the chances of habit formation. This technique, known as implementation intentions, helps individuals link the desired behavior to specific cues or situations.

DECISIONAL BALANCE

The decisional balance refers to the weighing of the pros and cons of a particular behavior change.

It involves evaluating the benefits and drawbacks associated with adopting or maintaining a behavior.

The decisional balance helps individuals assess the advantages and disadvantages of their choices, guiding them in making informed decisions about behavior change.

DECISIONAL BALANCE

	Not Changing Behavior	Changing Behavior
Pros	**Box 1**: What is something good that could come from *not* taking this action?	**Box 4**: What is something good that could come from taking this action?
Cons	**Box 2**: What is something bad that could come from *not* taking this action?	**Box 3**: What is something bad that could come from taking this action?

S.M.A.R.T.

The SMART technique is a goal-setting framework that stands for Specific, Measurable, Achievable, Relevant, and Time-bound.

It provides a structured approach for setting clear and effective goals.

By ensuring goals are specific, measurable, attainable, relevant, and time-bound, the SMART technique increases the likelihood of success and helps individuals stay focused and motivated in their pursuit of desired outcomes.

S.M.A.R.T.

S.M.A.R.T.

Specific:

Setting specific goals helps clarify the desired outcome and provides a clear direction for action. Instead of setting a general goal like "exercise more," a specific goal would be "go for a 30-minute jog three times a week."

S Específico (specific)				
O que você quer fazer?				

S.M.A.R.T.

Measurable:

Goals should be measurable to track progress and determine when they have been achieved. An example of a measurable goal could be "lose 5 kilograms in three months" or "save $500 per month for a vacation."

S Específico (specific)	M Mensurável (measurable)			
O que você quer fazer?	Como você vai saber que alcançou o objetivo?			

S.M.A.R.T.

Achievable:

Goals should be realistic and attainable based on one's abilities, resources, and circumstances. Setting goals that are too challenging or impossible to reach can lead to discouragement. For instance, an achievable goal could be "complete a 5-kilometer run in under 30 minutes" for someone who is already engaged in regular exercise.

S Específico (specific)	M Mensurável (measurable)	A Atingível (achievable)		
O que você quer fazer?	Como você vai saber que alcançou o objetivo?	O objetivo esta ao seu alcance?		

S.M.A.R.T.

Relevant:

Goals should align with one's values, interests, and overall objectives. They should be meaningful and relevant to the individual's larger aspirations. An example of a relevant goal could be "attend two development workshops to enhance skills and academic growth."

S Específico (specific)	M Mensurável (measurable)	A Atingível (achievable)	R Relevante (relevant)	
O que você quer fazer?	Como você vai saber que alcançou o objetivo?	O objetivo esta ao seu alcance?	Você pode alcançar o objetivo de forma realista?	

S.M.A.R.T.

Time-bound:

Goals should have a specific timeframe or deadline for completion. This adds a sense of urgency and helps individuals stay focused. For example, a time-bound goal could be "finish reading two books on personal finance within the next two months."

S Específico (specific)	M Mensurável (measurable)	A Atingível (achievable)	R Relevante (relevant)	T Temporal (time bound)
O que você quer fazer?	Como você vai saber que alcançou o objetivo?	O objetivo esta ao seu alcance?	Você pode alcançar o objetivo de forma realista?	Quando você deseja alcançar o objetivo?

ACTION PLAN

The action plan technique for adolescents involves creating a detailed roadmap that outlines specific steps and strategies to achieve a desired behavior change.

It helps adolescents break down their goals into manageable actions and provides a clear plan of action.

By identifying specific tasks, setting deadlines, and allocating resources, the action plan technique empowers adolescents to take proactive steps towards their desired behavior change and increases the likelihood of success.

ACTION PLAN

Day	Action (What?, Where?, When?)	Completed	Comments (e.g. How did you feel?, What did you do?)
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			
Sunday			

ACTION PLAN

PERSONAL ACTION PLAN

Current skills	Observing	Questioning	Imposing conditions	Creating new variables
Skills to work on	Preparing	Considering opposition's objectives	Listening more and talking less	Teamwork
My goals	Analyse more information I have Find the priorities and the key information	Listen more to the objectives Be reactive on objectives to find new strategies	Only talking when it's necessary No aggressive behaviours Take time	Try not to be always the leader Be proactive but take into account others' opinion
My resources	Apply techniques I learnt at school	Practice during social activities (during debates with friends)	Practice a sport of relaxation and self control Find opportunities to practice negotiation (during internships)	Apply team sport techniques Increase number of teamwork at school
Action plan	I could do it next time I negotiate	It is a daily work (1 month)	I need to change my personality! (6 months)	Find the weakest of the team and be cooperative with them (6 months)