

✕

✕ Effects of a physical literacy intervention delivered in medical centers

Prof. Alexandre Mouton



Background

Origin: Belgium

- University of Liège, Physical Education & Physiotherapy Department



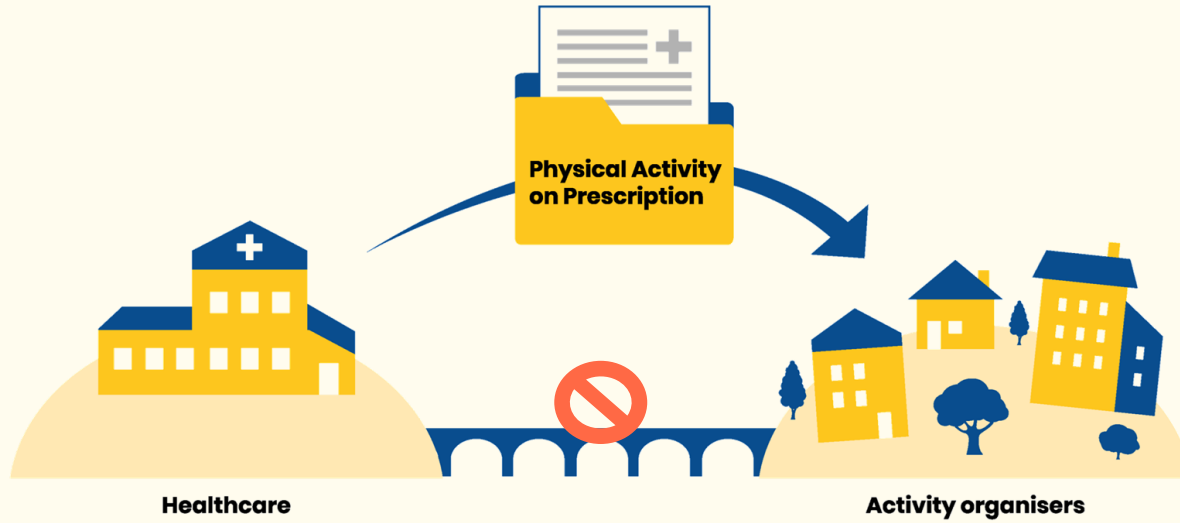
The background is a light cream color with various decorative elements. In the top left, there's a pink circle with a dotted pattern. In the top center, a yellow circle is partially visible. In the top right, a red circle is partially visible. On the right side, there are two small 'x' marks, one green and one red. In the bottom right, there's a yellow circle and a red circle. In the bottom center, there's a small green leaf-like shape. In the bottom left, there's a pink triangle with a dotted pattern and a yellow wavy line. On the left side, there are several concentric yellow circles.

Why explore Physical Literacy research in healthcare settings?

One of the “blank spots”

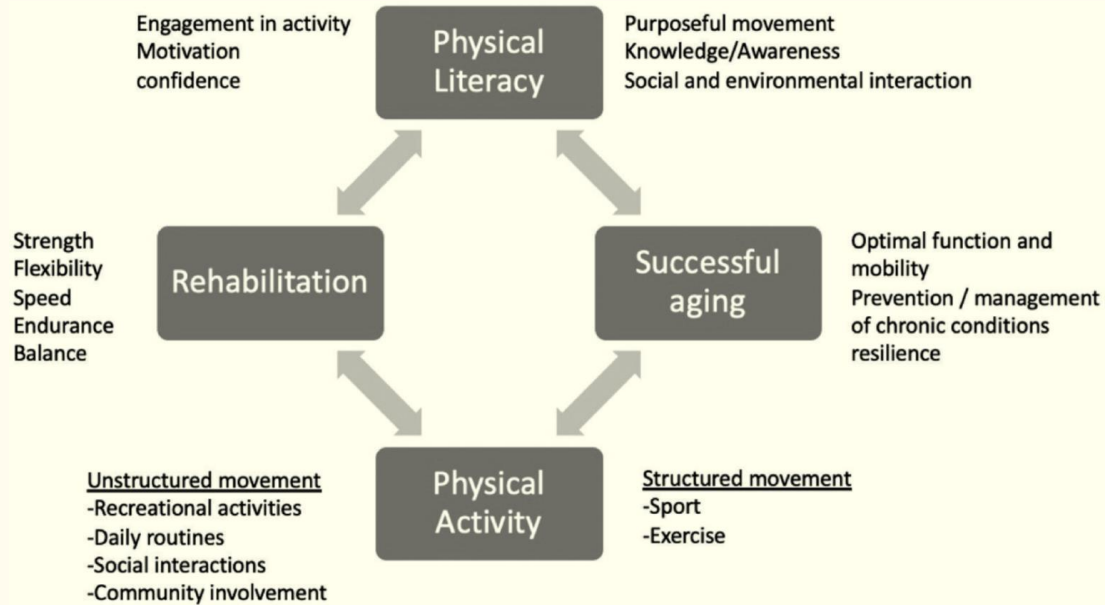
- Evidence support a relationship between the physical domain of physical literacy and improved health outcomes, but evidence is missing in specific populations ✕
- Most physical literacy research is focused on children, few in adults, almost none in older adults and chronic disease populations ✕
- Greater emphasis is placed on the physical domain of physical literacy, leaving the remaining domains (affective, cognitive, and behavioural) underrepresented/understudied
- Health care practitioners are not yet engaged with the construct of physical literacy in practice

Cornish et al. (2020)
Carl et al. (2022; 2023a)



Missing bridge between healthcare and autonomous physical activity

Marsault (2017)



Physical literacy for adults through a rehabilitation lens

Petrusevski et al. (2022)

Objective & Methods



Explore the effects of a physical literacy assessment and counselling session in chronic disease participants



Longitudinal quasi-experimental study

Control vs Experimental group design



Adult (+18) with chronic disease



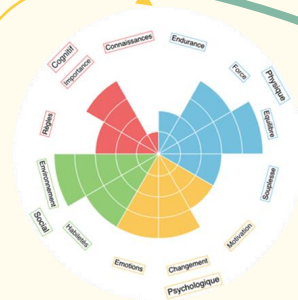
Recruitment of 3 medical centres in the Province of Liege (Belgium)

Design of the intervention

APA specialist



40-items 4 PL dimensions questionnaire
4 physical tests
Aggregate PL score /100 (/25 per dimension)



Referral

PL assessment

direct

PL counselling

+ 2 months

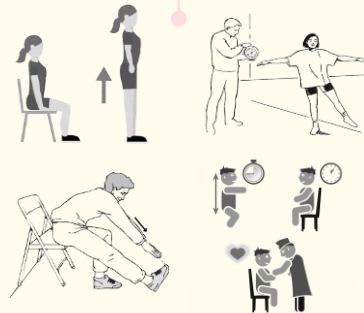
Follow-up assessment

×

×

Healthcare professionals

GP, Physio, Psycho, Nurse



Motivational interviewing technique

Individual goals-oriented

Link with community PA



Results

PL dimensions	T0			T+2 months		
	GC (n=20)	GE (n=44)	Inter-group P-value	GC (n=20)	GE (n=44)	Inter-group P-value
Psycho.	78,62	70,52	0,1	78,99	72,09	0,11
Social	74,34	74,91	0,78	75,2	77,45	0,78
Cognitive	59,19	69,68	0,01	59,53	73,93***	>0.001
Physical	64,11	52,53	0,03	64,56	54,34	0,02
PL total score	69,07	66,91	0,59	69,57	69,46**	0,6

*only mean values presented; ask about IC variability & SD
P-value *<0,05;**<0,01;***<0,001

Discussion & future directions

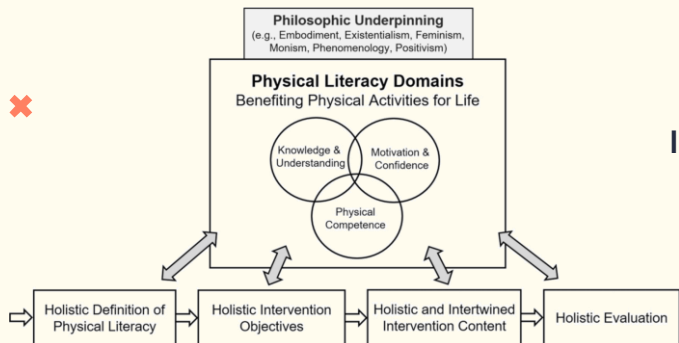
Increase follow-up duration



Reinforcing bridge with community PA



Integrate LP into adapted PA programs



Carl et al. (2023b)

Physical Literacy Interventions Reporting Template



Weerts & Mouton (2023)

https://www.chuliege.be/jcms/c2_26224880/en-mouvement-pour-ma-sante

× Thank you for your attention

- × Effects of a physical literacy intervention delivered in medical centers



Prof. Alexandre Mouton
alexandre.mouton@uliege.be

References

Carl, J., Barratt, J., Wanner, P., Töpfer, C., Cairney, J., & Pfeifer, K. (2022). The Effectiveness of Physical Literacy Interventions: A Systematic Review with Meta-Analysis. *Sports medicine (Auckland, N.Z.)*, 52(12), 2965–2999. <https://doi.org/10.1007/s40279-022-01738-4>

Carl, J., Jaunig, J., Kurtzhals, M., Müllertz, A. L. O., Stage, A., Bentsen, P., & Elsborg, P. (2023a). Synthetising physical literacy research for 'blank spots': A Systematic review of reviews. *Journal of sports sciences*, 41(11), 1056–1072. <https://doi.org/10.1080/02640414.2023.2259209>

Carl, J., Barratt, J., Arbour-Nicitopoulos, K. P., Barnett, L. M., Dudley, D. A., Holler, P., Keegan, R., Kwan, M., Scurati, R., Sum, R. K., Wainwright, N., & Cairney, J. (2023b). Development, explanation, and presentation of the Physical Literacy Interventions Reporting Template (PLIRT). *The international journal of behavioral nutrition and physical activity*, 20(1), 21. <https://doi.org/10.1186/s12966-023-01423-3>

Cornish, K., Fox, G., Fyfe, T., Koopmans, E., Pousette, A., & Pelletier, C. A. (2020). Understanding physical literacy in the context of health: a rapid scoping review. *BMC public health*, 20, 1-19.

Marsault, C. (2017). Le sport-santé, un objet médical, social ou sportif? Le dispositif strasbourgeois «sport-santé sur ordonnance» comme objet politique transversal. *Sciences sociales et sport*, 10(1), 21-49.

Petrusevski, C., Morgan, A., MacDermid, J., Wilson, M., & Richardson, J. (2021). Framing physical literacy for aging adults: An integrative review. *Disability and Rehabilitation*, 44(26), 8149–8160. <https://doi.org/10.1080/09638288.2021.2012841>

Weerts, J. P., & Mouton, A. (2023). S3-3 Effects of a physical literacy intervention delivered in a medical center setting. *The European Journal of Public Health*, 33(Suppl 1), ckad133.016. <https://doi.org/10.1093/eurpub/ckad133.016>



Personal links

URL Publications' list:

<http://orbi.ulg.ac.be/ph-search?uid=U205676>

URL Teachings' list:

https://www.uliege.be/cms/c_9054334/en/directory?uid=U205676

URL LinkedIn

<https://www.linkedin.com/in/mouton-alexandre-4a2b3b15/>

URL Google Scholar

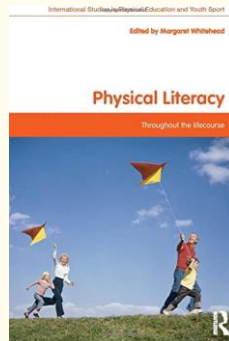
https://scholar.google.com/citations?user=YWG_fFcAAAAJ&hl=fr



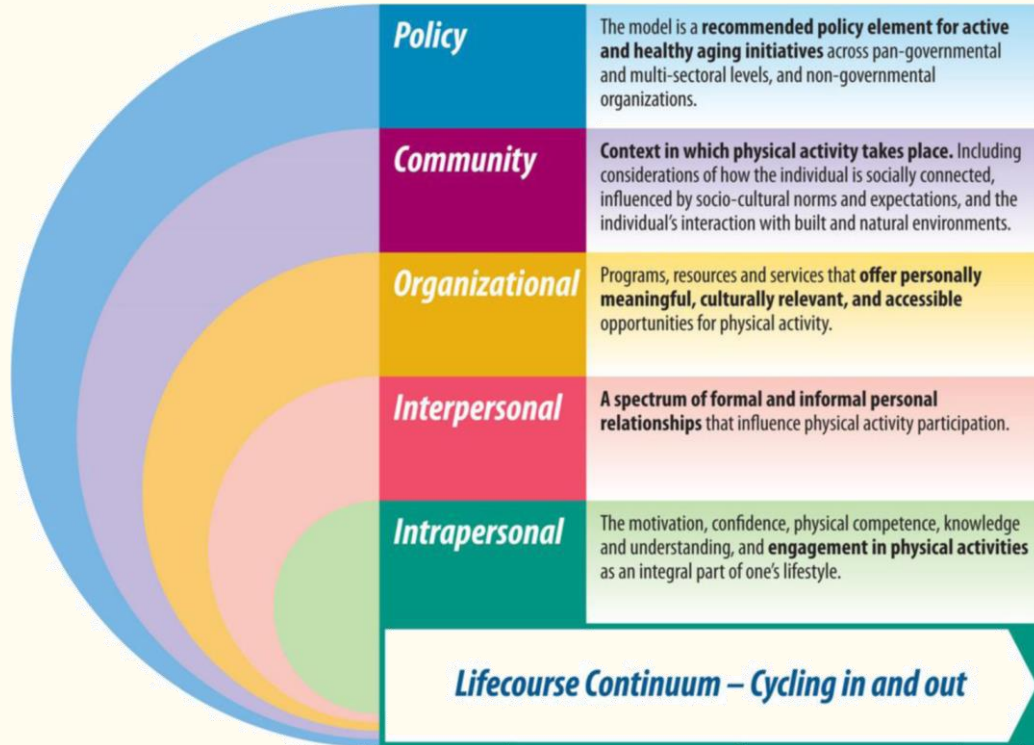
Extra slides

“Motivation, confidence, physical competence, knowledge, and understanding to value and take responsibility for engagement in physical activities for life”

International Physical Literacy Association (2017), inspired from Whitehead (2001)



Extra slides



Physical Literacy Model for Older Adults with an Ecological Approach

Jones et al. (2018)

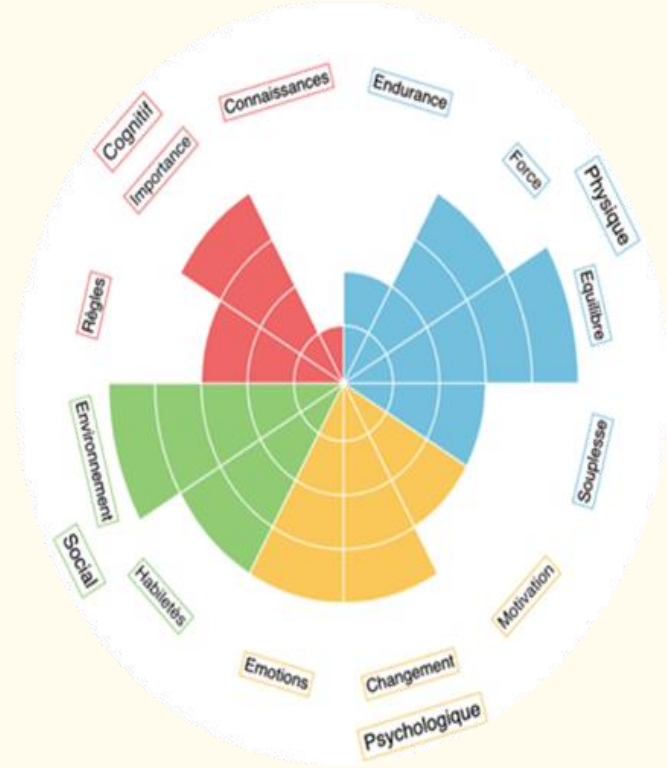
Extra slides

II. DIMENSION PSYCHOLOGIQUE

Quel lien affectif avez-vous avec l'activité physique et le mouvement ?

A. Motivation à être physiquement actif

Motivation a faire de l'activité physique	Pas vrai du tout	Moyennement vrai	Tout à fait vrai
J'ai honte quand je ne bouge pas	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7		
Je bouge parce que les autres estiment que je dois le faire	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7		
Je fais de l'activité physique, je bouge, parce que je trouve ça agréable	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7		<input type="checkbox"/> Enregistrer
Être quelqu'un de physiquement actif correspond bien à ma personnalité	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7		
Je trouve que l'activité physique est une perte de temps	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7		
J'estime qu'il est important de pratiquer une activité physique régulière	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7		



Extra slides

Session	Main focus	Main goal	Theory-content link			
			Physical domain	Cognitive domain	Psychological (affective) domain	Social domain
1	Evaluation: Pretest	Self-evaluation, enabling PL charting	Mixed rule-based games focusing object control	Content knowledge: Reasons for evaluation	Self-perception	Fairness, inclusion
2	Cooperative game forms	Strengthen group structure	Game arrangements promoting cooperation and anticipation	Strategy and planning; Participatory development and operation with cooperation strategies	Focusing success experiences with the whole group	Communication; respect; solve team challenges
3	Ball games (Part 1)	Improve object control	Promoting object control (ball), throw, catch, shoot within different individual exercises, and team games	Knowledge about central skills for ball manipulation	Individual progress and confidence in object control	Playing in different ways together and against each other
4	Acrobatics	Experience different acrobatic formations	Individual, pair, and group arrangements focusing on static strength and promoting group balance	Building up a repertoire of basic acrobatic forms; characterizing "physical activity"	Focus on courage, self-awareness, and trust (e.g., in building a pyramid)	Promoting communication, collaboration, and integrity
5	Scuffling	Regulate one's strength	Station run with different tasks (e.g., push, pull, hold) fostering strength and stability	Internalizing rules for scuffling against someone	Self-regulation and proper usage of own strength	Respect towards others, their body, and limits
6	Endurance games	Pacing one's energy sources	Game arrangements challenging individual endurance boundaries	Understanding the pulse, observing its reaction to a sport activity	Volition to maintain the load throughout an entire game; fostering perseverance	Support and cheer up others, relationships
7	Racket sport	Get in touch with different types of racket sport	Exercises focusing basic racket handling (e.g., via hockey, badminton, or tennis rackets), introduction in small games using the rackets	Reasoning: Advantages of (regular) PA	Confidence in handling equipment	Playing in different ways together and against each other
8	Parkour	Development and proper use of movements in the context of parkour	Basics of parkour; jumping, running, and overcoming obstacles; agility exercises	Knowledge about parkour as a lifestyle activity in urban spaces; linking obstacle equipment from indoor use to self-initiated outdoor use	Self-awareness of skills, overcoming obstacles	Respect toward others and their abilities, integrity
9	Dancing	Become acquainted with aesthetic and rhythmic movements	Rhythmic movements, perform aesthetic movements in a group	Knowledge about the variety of dancing; developing dances in accordance with the rhythm	Enjoyment; self-expression through dancing	Development of a group choreography (for communication and collaboration)
10	Ball games (Part 2)	Improve object control	Object control (ball); Exercises focusing the reaction time	Knowledge about different types of coordination	Celebrate progress (Ballgames-1)	Playing in different ways together and against each other
11	Trend sport	Learn something new	Object manipulation: throwing and catching a frisbee	Reasoning: issues of being active every day—discuss solutions	Encouragement and motivation to try something new	Trying something new together, society and culture
12	Conditional abilities	Introduction in different conditional abilities, own strengths	Small team games focusing the range of movements running, throwing, pushing	Introduction in knowledge of different abilities to be physical active	Enjoyment of various movements; focusing individual success experiences	Respect individuality; communication, ethics
13	Free session	Enjoyment; implement own movement ideas	Mixed games and exercises	Reflection of "taking home" messages of the program	Involvement; encouragement	Communication; relationships
14	Evaluation: Posttest	Self-evaluation, promoting PL charting	Mixed rule-based games focusing object control	Changes in PA/sport habits before and after	Self-perception	Respect towards others, fairness

Example of a theory-based PL intervention in school

Carl et al. (2023c)