

A social network implemented intervention promoting physical activity among youth

PhD-day

Thabo van Woudenberg, 21-10-15



The myMovez team

Moniek Buijzen (PI) Kris Bevelander William Burk







PhDs:

Crystal Smit Laura Buijs Thabo van Woudenberg



Advisors:

Rebecca de Leeuw Esther Rozendaal







Aim of the myMovez project

- Promoting a healthy lifestyle for children and adolescents.
- Energy intake and energy expenditure
- Focus on physical activity







Physical Activity Guidelines

- Exercise (WHO, 2014)
 - at least 60 minutes of moderate- to vigorous-intensity physical activity daily.
- Lifestyle physical activity (Tudor-Locke, 2013)
 - Boys: 13.000 steps
 - Girls: 11.00 steps
- 80% of the youngsters do not meet these guidelines (Hallal et al., 2012)









Interventions

• Former interventions to promote physical activity have little effect



Lifestyle physical activity?





Social network intervention

- Most physical activities require peers (e.g. Soccer, hide-and-seek, dodgeball, etc)
- Therefore we have to take the social environment into account
- Social network implemented intervention







(Peer led) social network intervention

- Rogers' diffusion of innovations theory: explains how innovations diffuse to members of a social system
- We will identify the influential agents within a classroom and train them to promote physical activity
- Effective in reducing alcohol consumption and tabacco use.







Wearable lab









Fitbit









- Communication with Fitbit and dataset
- Assessment of social network
- Cycling activities
- Questionnaires (e.g. Daily food intake)
- Social platform
- Experience sampling/Pictures
- Objective measure of social network

















Beacon network







4 Studies

- Study 1:
 - Similarity in lifestyle physical activity
- Study 2:
 - Underlying mechanisms of peer influence on LPA
- Study 3:
 - Influence Agents selection
- Study 4:
 - Effectiveness of the intervention





Study 1: Similarity in lifestyle physical activity

- Similarity
- Selection and influence

	W1	W2	W3
Social network			
Physical activity			







Study 2: Underlying mechanisms of peer influence on LPA

- Social facilitation
 - Number of classmates around you during physical (in)activity
- Modeling
 - Mean scores of LPA of classmates/friend/influential peers.
- Impression management
 - Impression management tactic scales









Study 3: Influence Agents selection

- Centrality by degree [7]
 - Number of nominations
- Centrality betweenness [8]
 - average geodesic distance to all other actors in the network
- Centrality closeness [4 or 5]
 - Broker role







Study 4: Effectiveness of the intervention

- Mobile socialnetwork implemented health campaign
- Select influence agents based on study 3
- Training them based on underlying mechanism from study 2
- Effectiveness of the intervention compared to a control condition.





Planning

	2015	2016	2017	2018	2019
Preparation	Pilot's				
Phase 1		W123			
Transition			W4		
Phase 2				W567	W8





Participants

	Year 1	Year 2	Year 3
Cohort 1 [PS]	Groep 6 (9-10)	Groep 7 (10-11)	Groep 8 (11-12)
Cohort 2 [SS]	Klas 1 (12-13)	Klas 2 (13-14)	Klas 3 (14-15)

N = 2500





Thank you

- <u>T.vanWoudenberg@maw.ru.nl</u>
- mymovez.nl
- mymovez.socsci.ru.nl





- Communication with Fitbit and server









- Communication with Fitbit and dataset
- Assessment of social network







- Communication with Fitbit and dataset
- Assessment of social network
- Cycling activities







- Communication with Fitbit and dataset
- Assessment of social network
- Cycling activities
- Questionnaires (e.g. Daily food intake)







- Communication with Fitbit and dataset
- Assessment of social network
- Cycling activities
- Questionnaires (e.g. Daily food intake)
- Social platform

-	11.35
≡ my movez	2 99
SOCIAL NEWSFEED	
ALGEMEEN	PRIVÉ
Plaats een bericht	
Lorem ipsum dol	or-sit
	RC
Lorem ipsum dol	or sit
Aliquet sit	
Aliqu	vet sit





- Communication with Fitbit and dataset
- Assessment of social network
- Cycling activities
- Questionnaires (e.g. Daily food intake)
- Social platform
- Pictures (e.g. media exposure or food)







Triggers

Based on:

- Physical activity
- Proximity
- Time
- Answers to questions
- Lack of data

We can:

- Send (push)messages
- Ask questions
- Stimulate to perform behavior
- Let them post messages on the message board



