A Randomized Controlled Trial Testing a Social Network Intervention to Promote Physical Activity Among Adolescents by using Smartphones.

Thabo van Woudenberg,
Kirsten Bevelander,
William Burk,
Crystal Smit,
Laura Buijs,
and Moniek Buijzen

HEPA 2017, Zagreb
MyMovez Wearable lab
Fitbit Flex

Step count per day

Step count per minute/Minutes MVPA
**Smartphone**

- Communication with Fitbit and server
- Questionnaires (e.g. Athletic competence)
- Assessment of social network
  - Friendship
  - Advice
  - Etc.

Other functionalities
Social network intervention:
Social network intervention:
Adjustments on social network intervention

A: Selection
- network position
- team of Influence agents

B: Training
- on smartphones
A: How to select the influence agents

Top 15-20% of the class

Result = Most popular individuals
A: How to select the influence agents

Centrality

– Indegree (nominations)
– Closeness (average shortest paths to all members)
Team of Influence Agents

The ‘greedy search algorithm’
Individual Closeness Central Agents
Collective Closeness Central Agents
B: How to train the influence agents

- Multi-day training sessions
- Mobile sessions
B: How to train the influence agents

‘Your role as influence agent’

Provide information and fun facts
How to: Influence the physical activity of classmates

Ask for personal strategies and preferences
[Self determination/ Self persuasion]
Create commitment by asking whether they accept the role.

Keep in touch with the influence agents via the app.
Sample

Active parental consent for participation

1 School
• 11 Classes (5 intervention classes)
• 190 participants (46% male)
• 11 to 14 years old ($M = 12.17$ years, $SD = .50$)

Influence agents:
24 approached:
• 1 declined
• 4 no reaction
• 19 accepted role. 3 or 4 influence agents per class.
November

1 week

Demographics

Social network questions

December

1 week

Athletic competence
Hierarchical structure: Multi-level approach

Imputation: Multiple Multilevel imputation
## Multi-level model with Random Intercepts per Child and Day

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<th></th>
<th>s²</th>
<th>b</th>
<th>SE</th>
<th>DF</th>
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Discussion

- Perceived distance between the influence agents and researchers
- Could not test the effect of closeness central vs degree central influence agents

Limitations

- One big school
- Relatively short intervention period
- Active parental consent
  - No classes with <60% participation
Messages for policy and practice

- Social processes in interventions
- Theoretical implications in social network interventions.
- Positive feedback on the infographic.
Contact information

Thabo van Woudenberg
Communication and Media
Radboud University, the Netherlands
TvA 8.00.03

t.vanwoudenberg@maw.ru.nl

www.mymovez.eu