

Erasmus School of
Social and
Behavioural Sciences

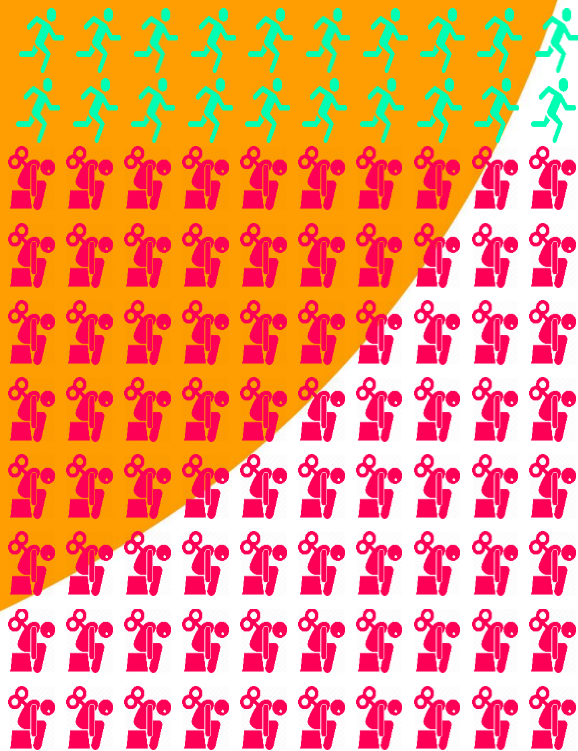
MOVEZ
NETWORK



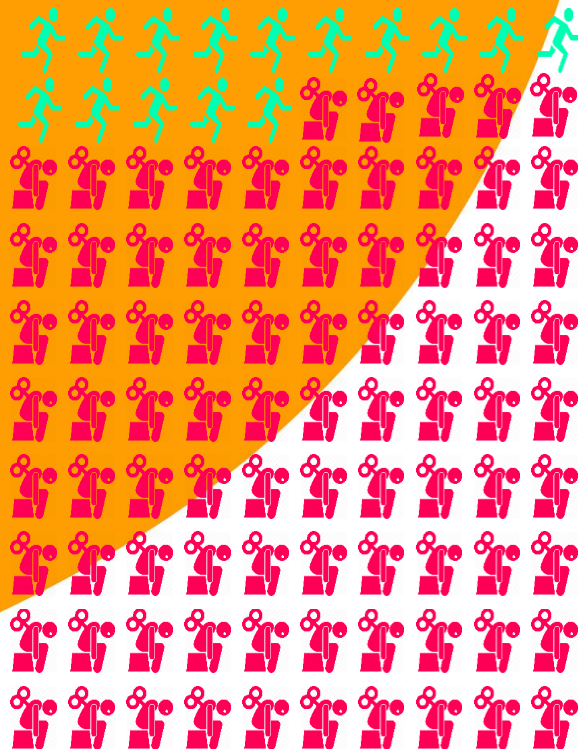
Social Network Interventions to Promote Physical Activity in Adolescents

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Erasmus



Guthold, Stevens, Riley, & Bull (2019)



Hilbebrandt, Bernaards, & Hofstetter (2015)

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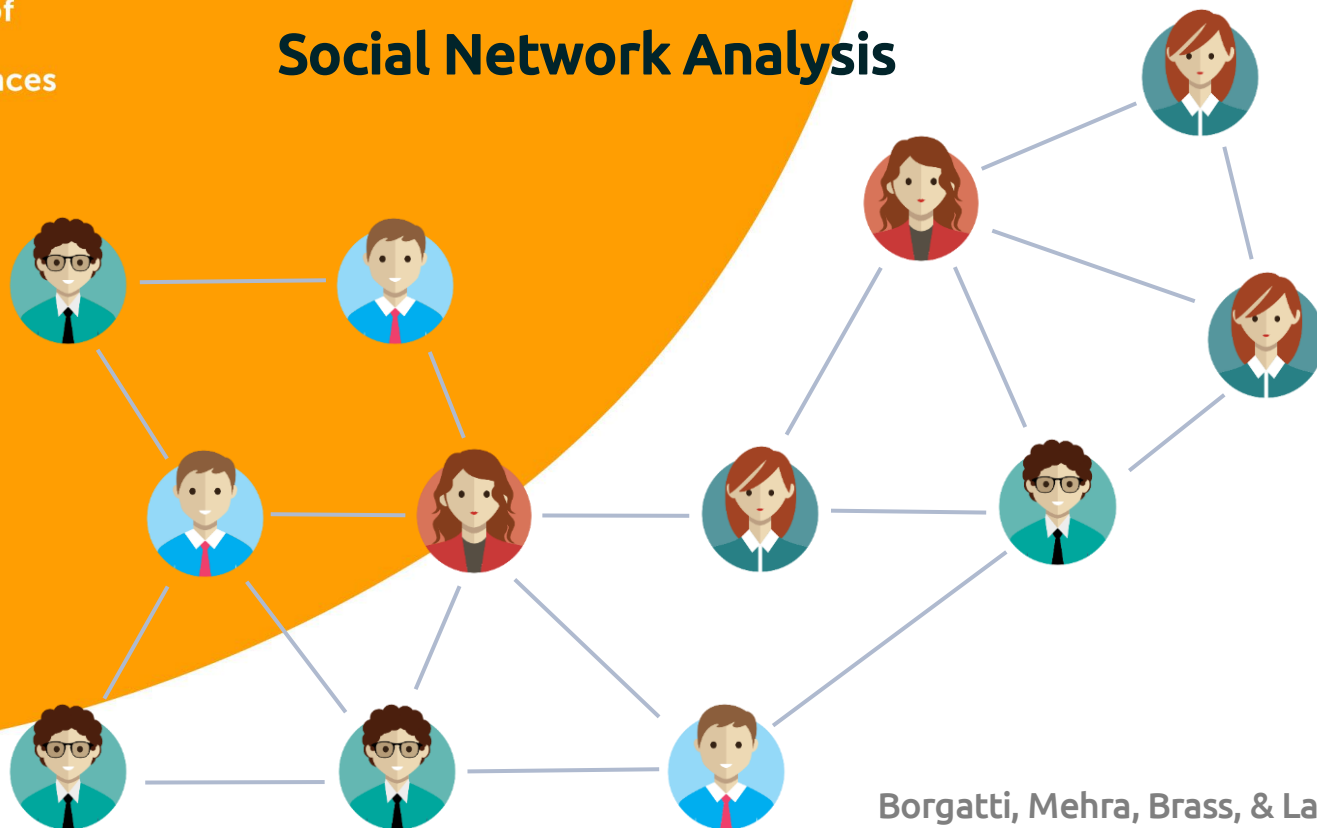
Chung, Ersig, & McCarthy (2017)
Fitzgerald, Fitzgerald, & Aherne (2012)
Salvy & Bowker (2013)

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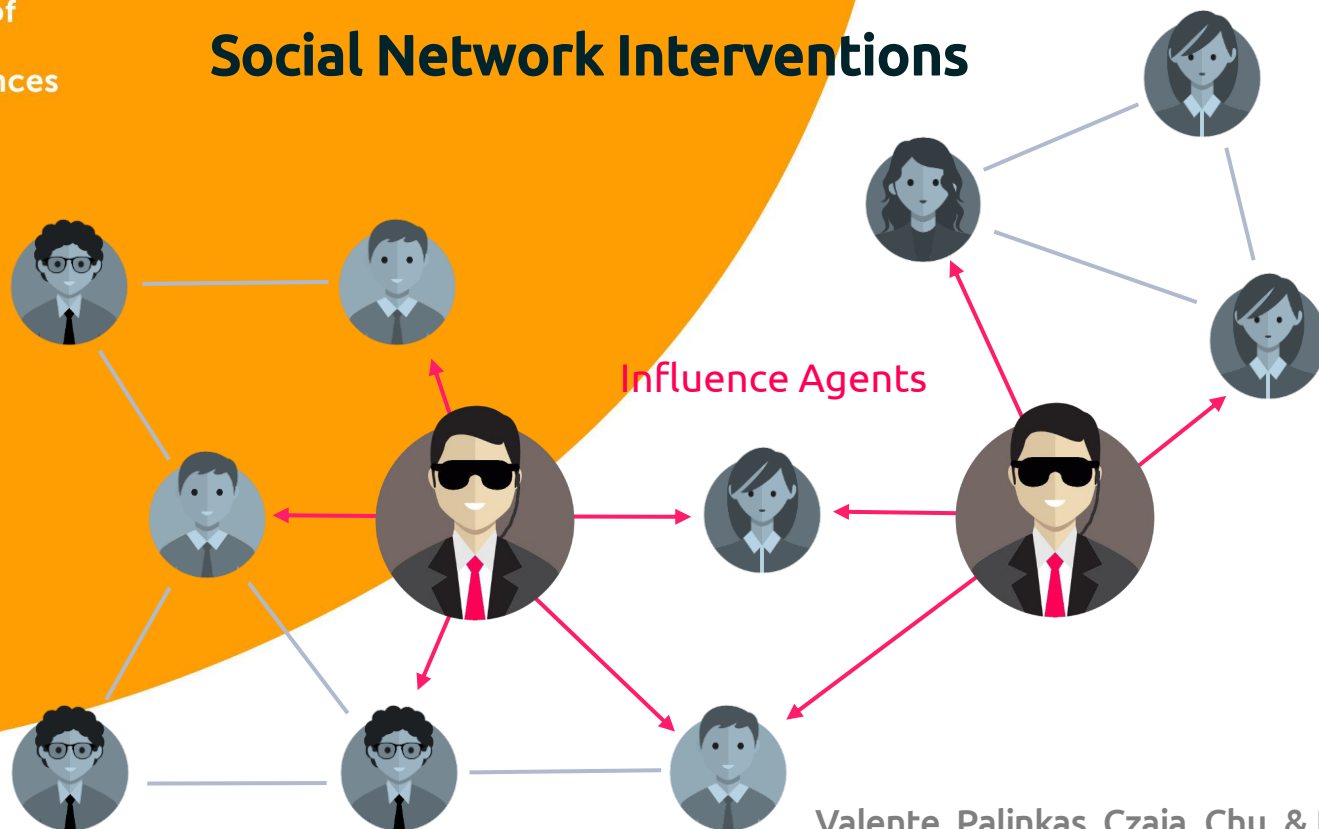
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Social Network Analysis



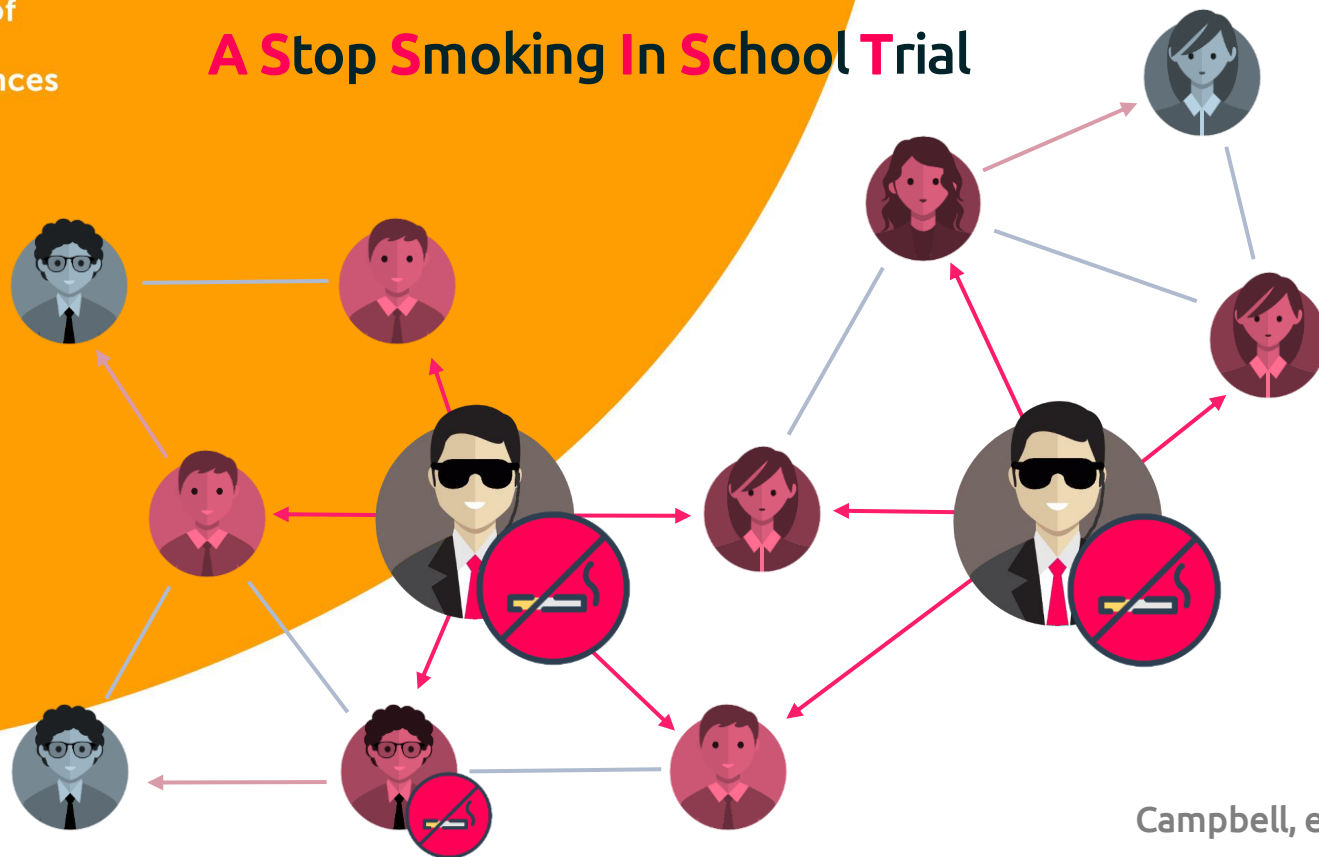
Borgatti, Mehra, Brass, & Labianca (2009)

Social Network Interventions

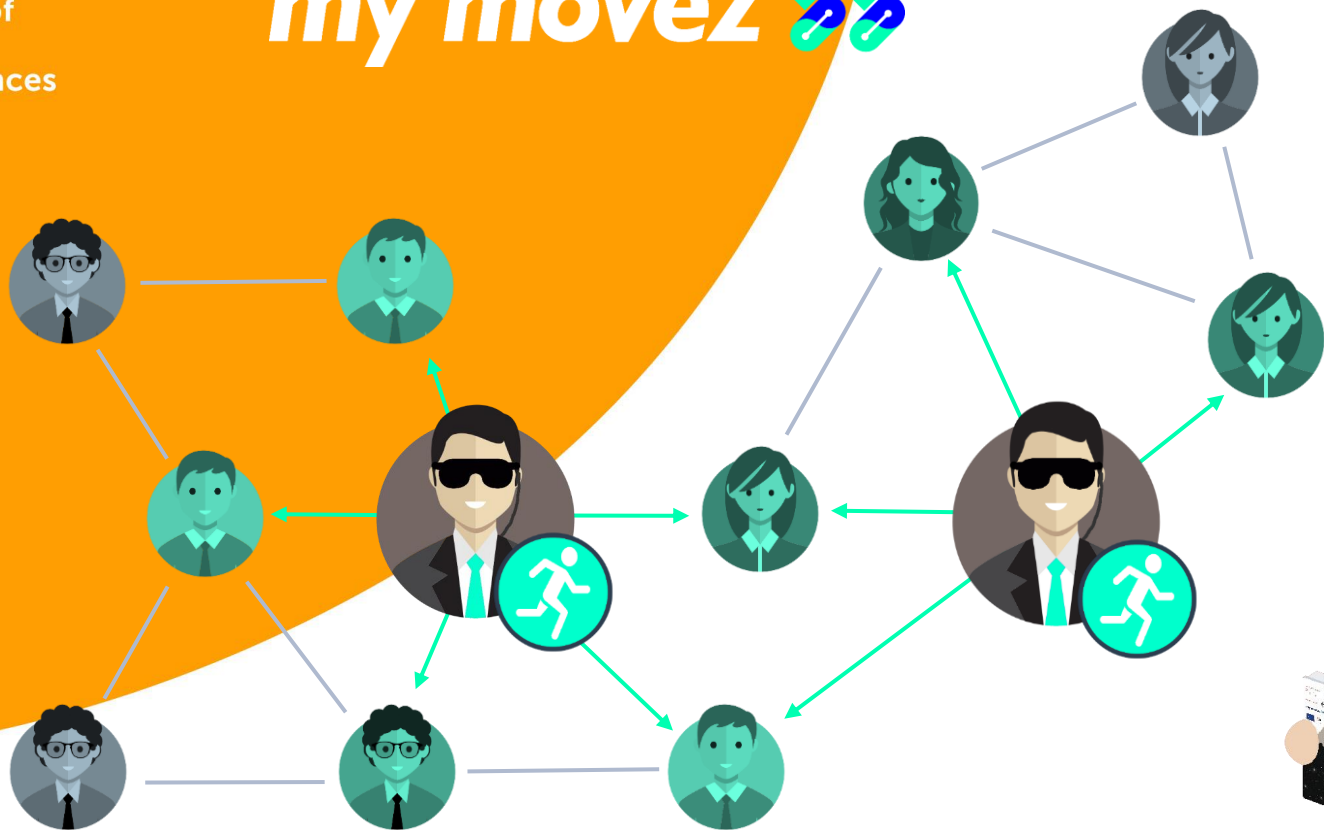


Valente, Palinkas, Czaja, Chu, & Brown (2015)

A Stop Smoking In School Trial



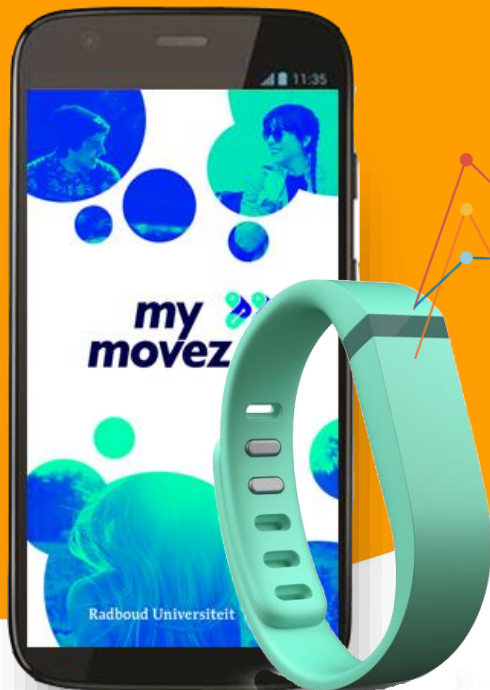
Campbell, et al., (2008)



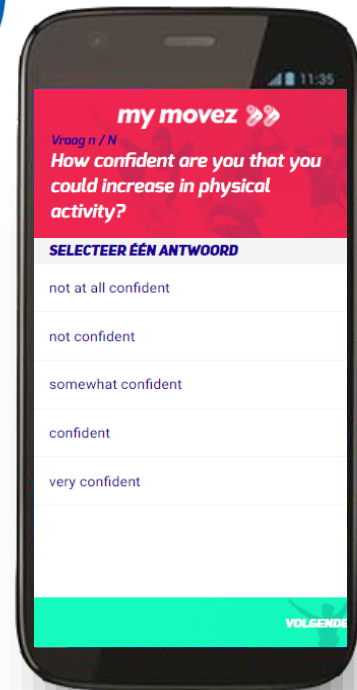
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my movez

Wearable Lab



Daily questionnaires
Peer nominations
Social platform
Avatar
Game



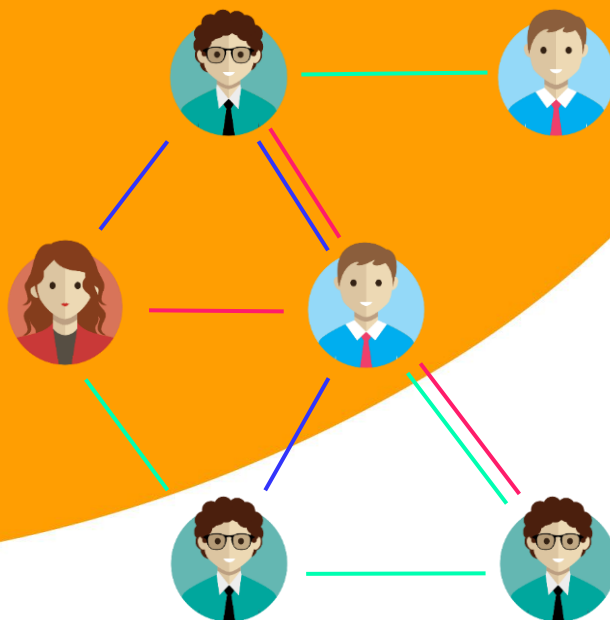
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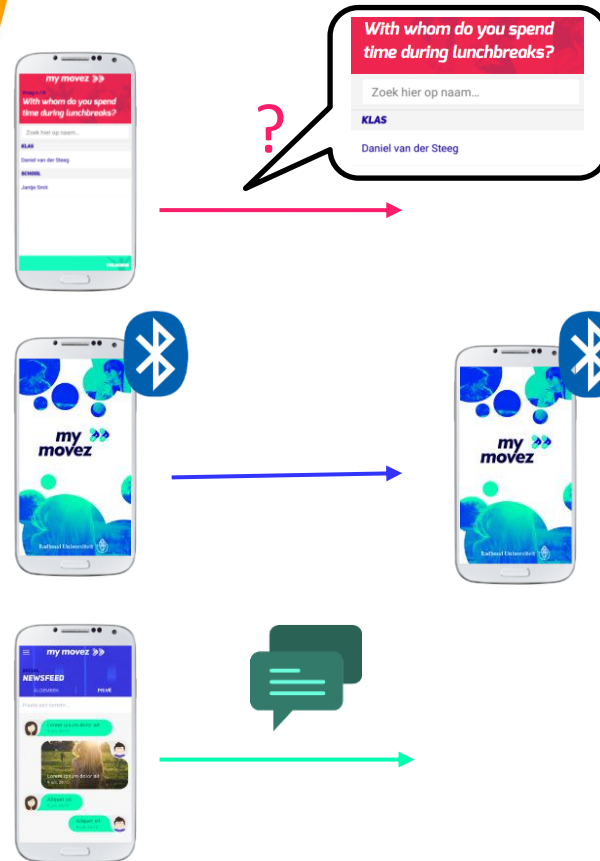
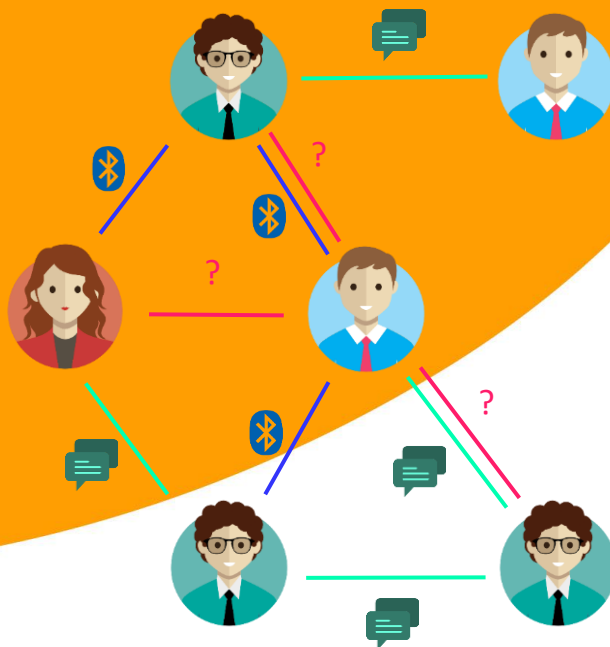
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Study 1: Mapping Relationships

Van Woudenberg, Bevelander, Burk, Smit, Buijs, & Buijzen (2020)
Comparing the Measurement of Different Social Networks;
Peer Nominations, Online Communication, and Proximity Data.
Social Networks

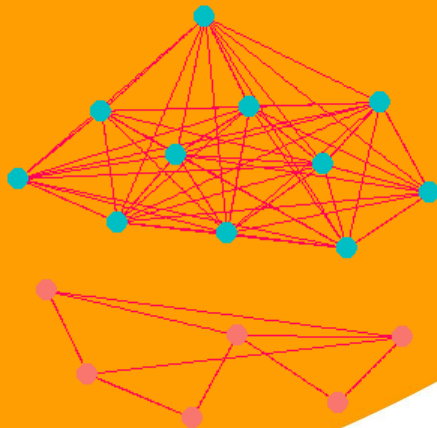


Study 1: Mapping Relationships



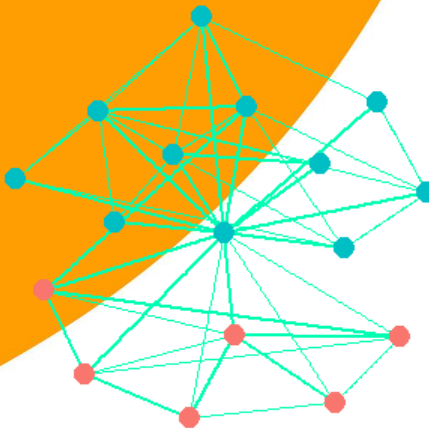
Study 1: Mapping Relationships

Nomination

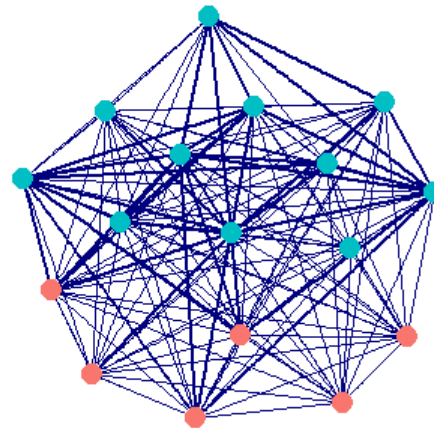


?

Communication

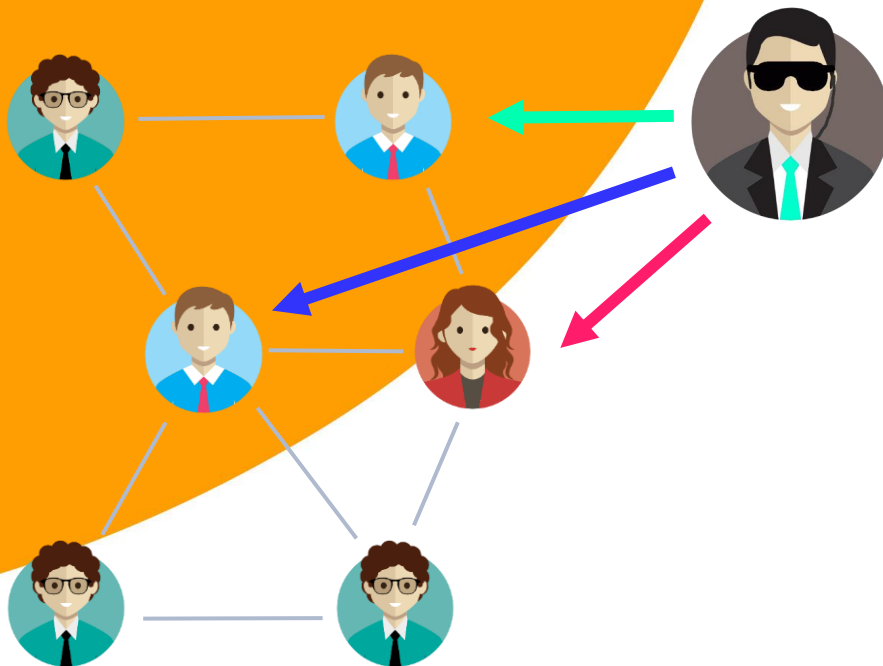


Proximity

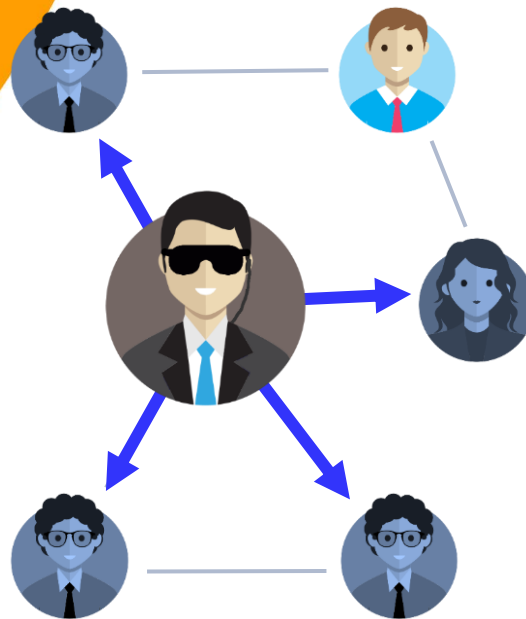
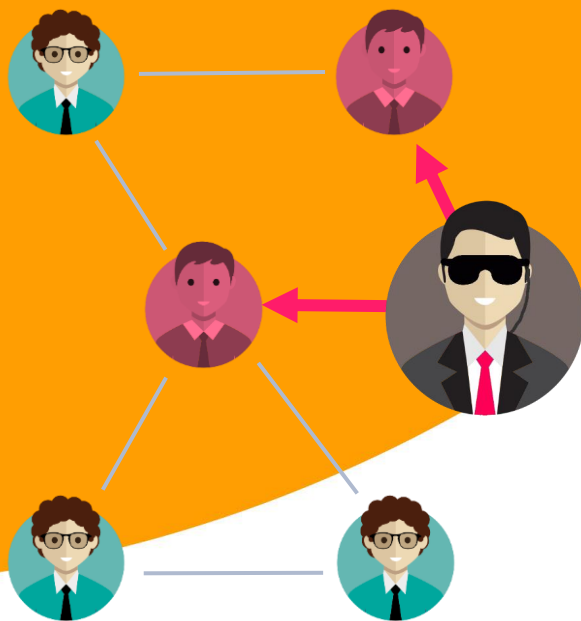


Study 2: Selecting Influentials

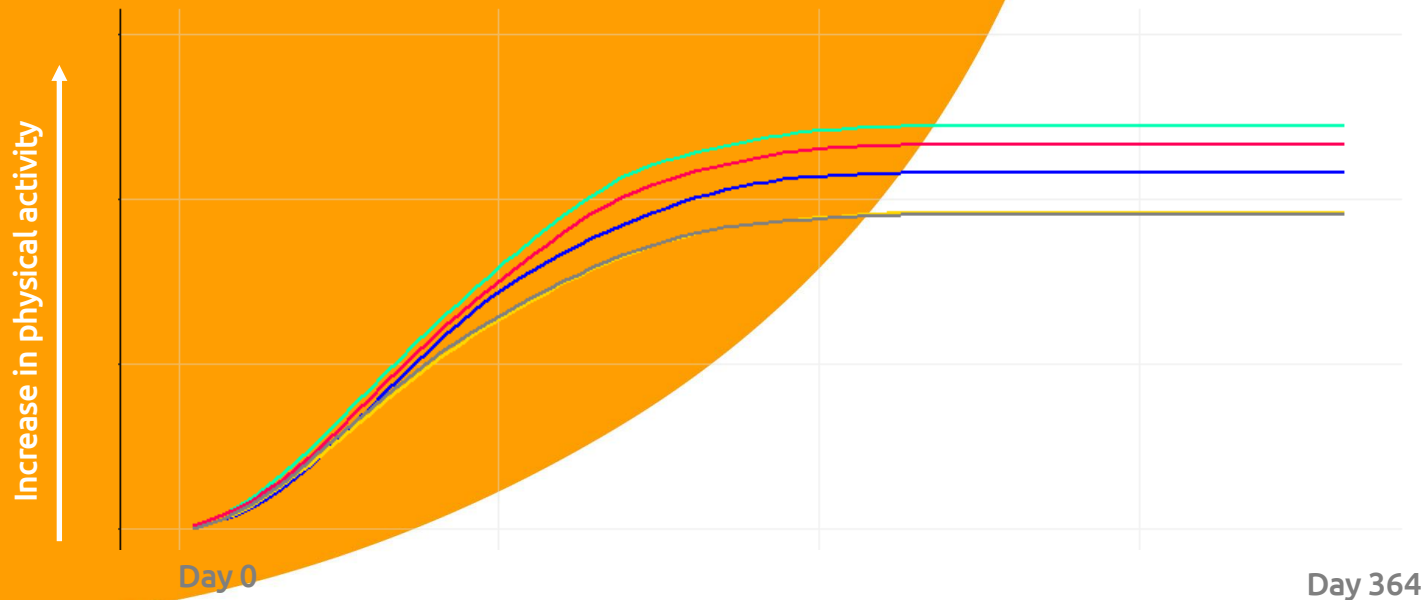
Van Woudenberg*, Simoski*, Fernandes de Mello Araújo, Bevelander, Burk, Smit, Buijs, Klein, & Buijzen (2019)
Identifying Influence Agents That Promote Physical Activity
Through the Simulation of Social Network Interventions:
Agent-Based Modeling Study.
Journal of Medical Internet Research



Study 2: Selecting Influentials



One-year simulations of five interventions

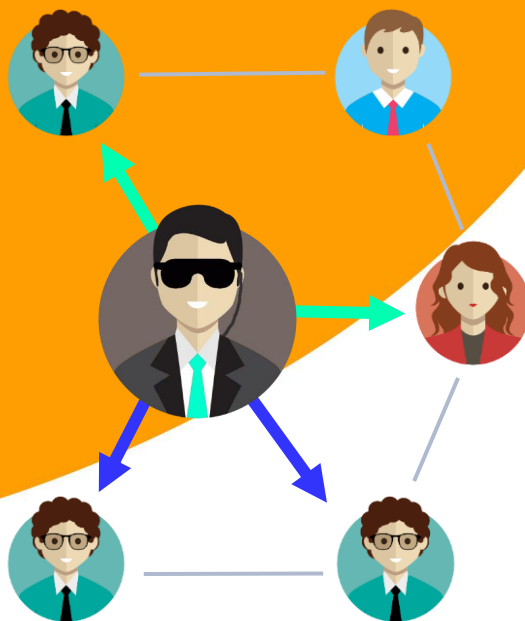


Two most influential
positions in social networks

Most nominated

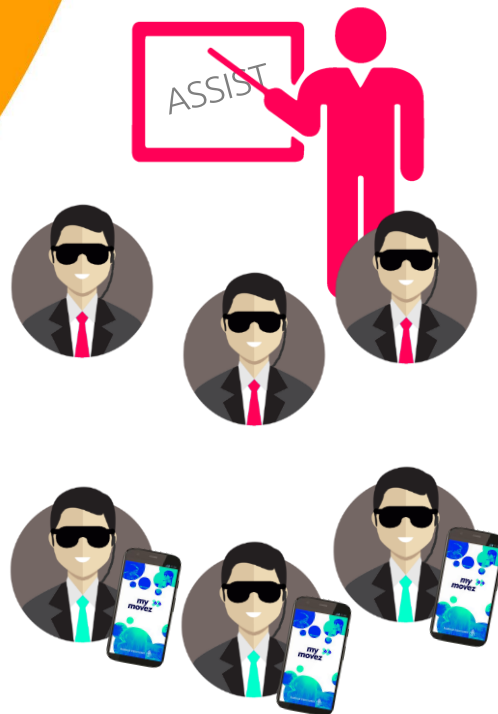
Shortest connections

3: Training the influence agents



Study 3: Training Influentials on smartphones

Van Woudenberg, Bevelander, Burk, Smit, Buijs, & Buijzen (2018)
A randomized controlled trial testing a social network intervention
To promote physical activity among adolescents
BMC Public Health



No effect of the intervention

12.000

Number of steps

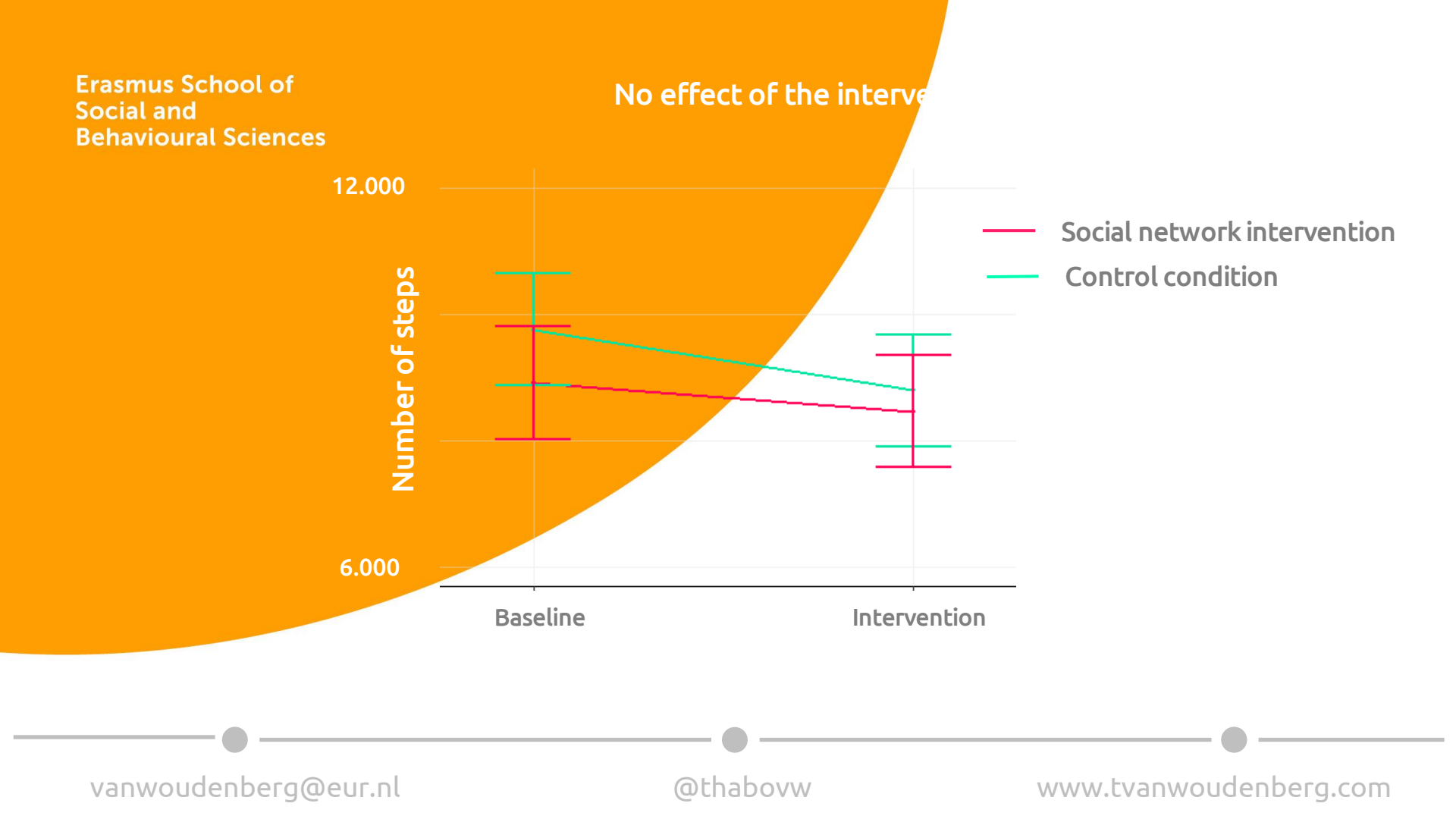
6.000

Baseline

Intervention

Social network intervention

Control condition

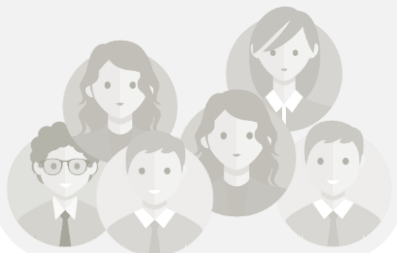


Study 4: Using vlogs

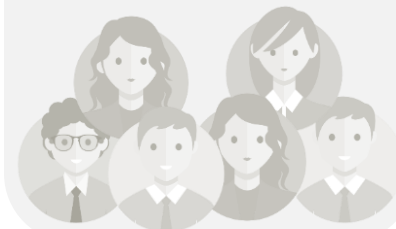
Social network intervention



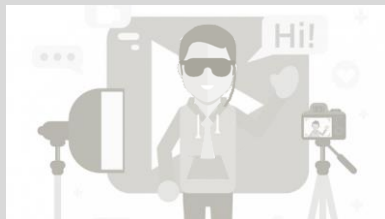
Mass media intervention



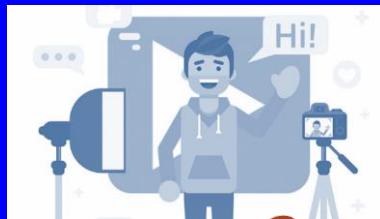
Control Condition



Social network intervention



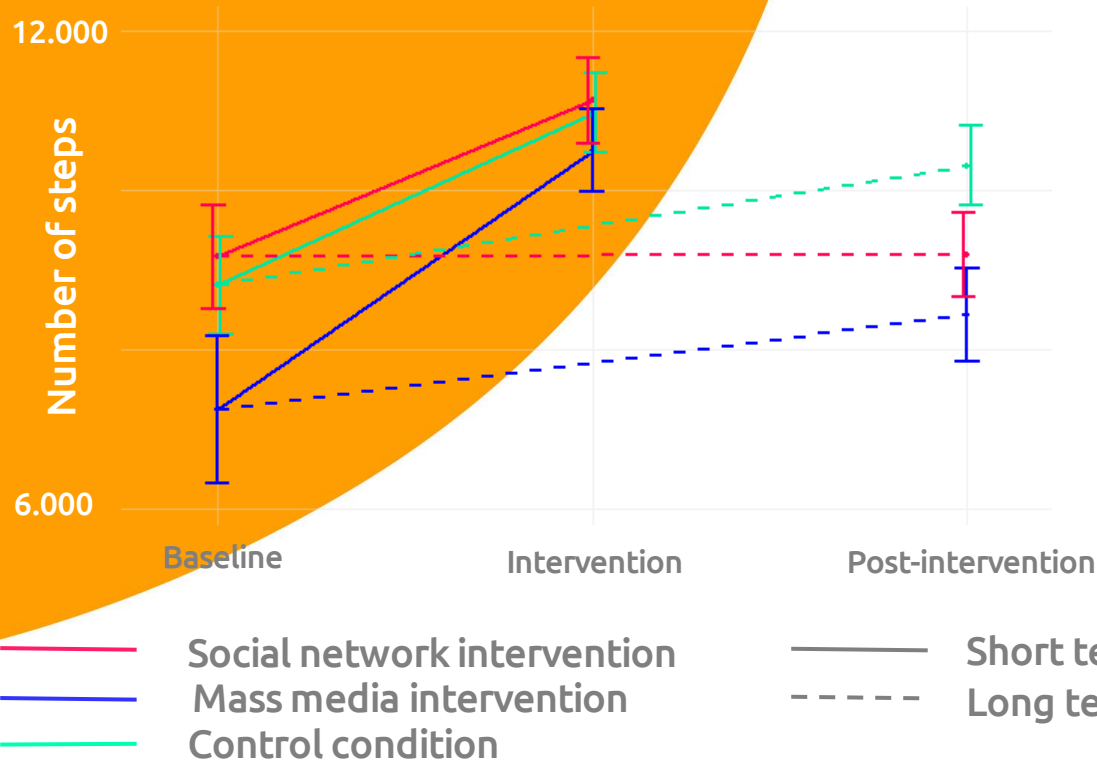
Mass media intervention



Control Condition



No effect of the intervention



Increases the perceptions
of the social norm

- More exposure to the vlogs
- Liked the vlogs more
- Closer related to the vloggers



Take-home messages:

- Mapping:** Low similarity in the different ways to measure relationships in social networks.
- Selecting:** Most nominated and most close peers are the most influential adolescents in social networks.
- Training:** No evidence that these interventions can promote physical activity in adolescents, but:
 - ▶ increase perceived social norm
 - ▶ positive responses to vlogs

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Future studies



**Social
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