

The Role of Motivation and Ability in Children's Energy Balance-Related Behaviors

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Introduction

Health intervention developers often target people's **MOTIVATION** and **ABILITY** to change behavior because they are identified as important underlying mechanisms.

The FOGG Behavior Model (FBM) suggests that people's motivation and ability to perform certain behavior depends on several antecedent variables:

➤ **Motivation** (3 antecedents): *pleasure/pain* (i.e., enjoyment), *hope/fear* (i.e., benefits), and *acceptance/rejection* (i.e., acceptance).

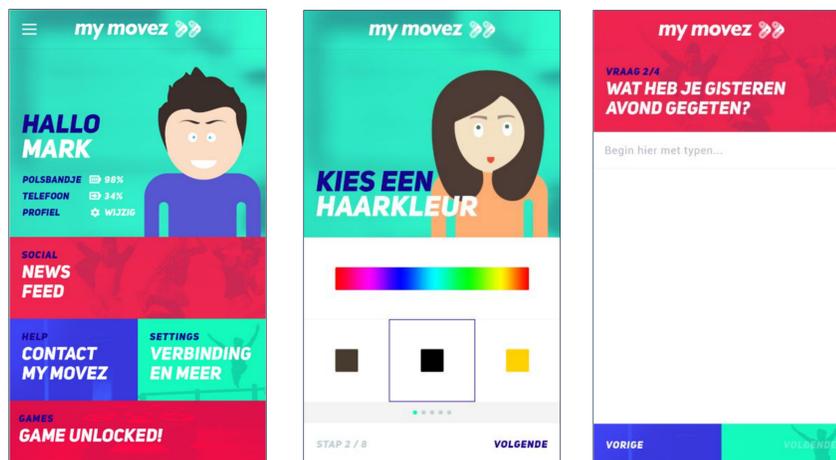
➤ **Ability** (6 antecedents): time, money, effort, brain cycles, social deviance (i.e., descriptive norms), and non-routine (i.e., habits).

This study tests the FBM in the context of children's physical activity (PA) and healthy snacking as part of the 'MyMovez'-research project aiming to develop a method for effective campaign implementation.

Method

Wearable Lab: smartphone & activity tracker

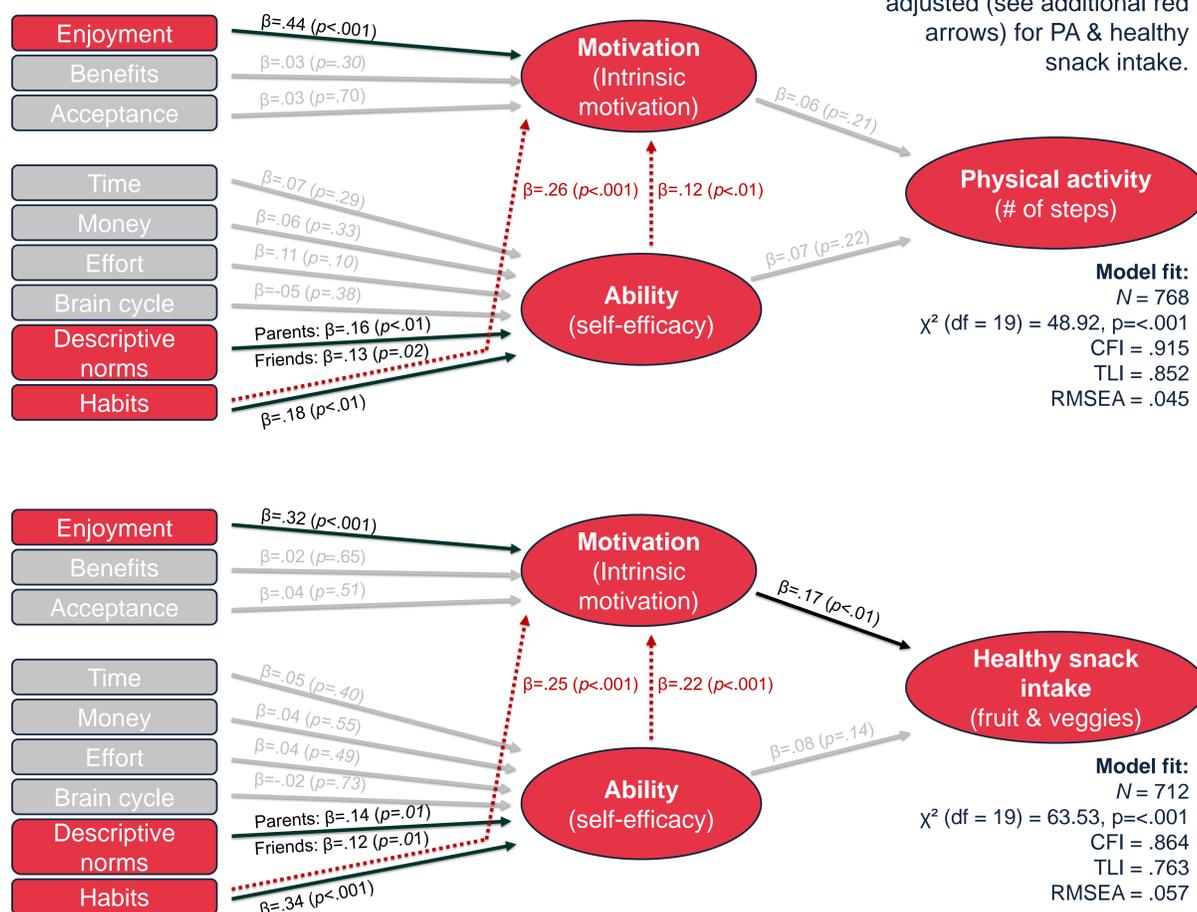
An innovative smartphone-based research application (MyMovez-app) connected to an activity tracking bracelet enabled data collection on daily randomized and planned time points for a 6-day period. Physical activity was measured by the accelerometer. Dietary intake was based on self-reported consumption surveys (FFQ).



Picture 1-3. Different MyMovez-app screens
Picture 4. Activity bracelet

In total, 768 children (44% boys, age: 9-14 y/o) participated in the study. Structural equation modeling (SEM; Mplus 7.0) was used to examine whether FBM is associated with children's energy balance-related behaviors.

Results



Take aways

- Enjoyment and habits are the most important antecedent variables for children's **motivation** to be active and snack healthy.
- Descriptive norms (from both parents & friends) and habits are the most important antecedent variables for children's perceived **ability** to be active and snack healthy.
- For healthy snack intake, only motivation is associated with actual intake.
- For physical activity, motivation nor ability is associated with actual levels of PA. For girls, however, motivation to be active is associated with their number of steps taken.
- **Motivation** is an important factor to increase physical activity and healthy snacking behaviors.
- For children's energy-related behaviors, FBM can be improved by adding a pathway between:
 - habits and motivation;
 - ability and motivation.