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 anteceding 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).

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

Figure 1-2. FBM operationalized and adjusted (see additional red arrows) for PA & healthy snack intake.

Enjoyment

Motivation (Intrinsic motivation)

Physical activity (# of steps)

Ability (self-efficacy)

Healthy snack intake (fruit & veggies)

Take aways

- Enjoyment and habits are the most important anteceding variables for children’s motivation to be active and snack healthy.
- Descriptive norms (from both parents & friends) and habits are the most important anteceding 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.