

Fitness App Turns Families into Sports Teams

Via Smartphone, Parents and Children Motivate Each Other to Do Sports and Adopt a Healthier Lifestyle – Sports Science Study Focuses on Family's Activity and Nutrition Behavior



Nutrition and physical exercise of families are in the focus of the SmartFamily sports science study of KIT. (Photo: Gabi Zachmann, KIT)

Germany is world champion in football and European champion in handball. The sports market booms, many people consider fitness a lifestyle. On the other hand, a large part of the population does very little physical exercise. This frequently affects health. With a fitness app for the family, researchers of Karlsruhe Institute of Technology (KIT) plan to support healthy nutrition and exercise in the family's everyday life. Within the framework of a large-scale study, they analyze the influence of the family environment on health-related behavior.

“Dietary habits develop at the family's table, and parents also have a model function in sports. But do children influence their parents to adopt a healthy diet and to do more physical exercise? And do siblings encourage each other to eat more vegetables or to play football instead of sitting in front of a computer? The influence of family life on physical exercise and nutrition of the family members and the strategies for families to improve their health-related behavior are in the focus of the SmartFamily study that will be carried out with test persons in the Karlsruhe region until early 2018.

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The smartphone plays a very important role in this project. Test families with children aged between 10 and 16 years will be given a mobile phone equipped with a special app and a motion detector. In the app, the family defines fitness goals it wants to reach within a period of one week: The number of steps made and the time it will spend with moderate physical activity, such as walks, or with strenuous sports. When certain milestones are reached, the family will receive a congratulations message. In the app, the family members can see anytime what they have already achieved together. Individual contributions, however, are not visible to the others. "We want to address the family as a whole," Jens-Peter Gnam of KIT's Institute of Sports and Sports Science (IfSS) says. "We are interested in the dynamics developing within the group and in whether one person makes the others follow his/her example," the sports scientist says.

The study focuses on motivation of the participants. The researchers would like to know whether the participants' confidence in reaching the self-defined goal thanks to his/her own competence is strengthened. And whether the family members are active due to external motivation, i.e. to reach the defined goal, or due to internal motivation, that is due to fun of movement. According to Gnam, the intrinsic motivation, that is the passion to do a thing for its own sake, is particularly high for persons living within a social network, such as a family. For this reason, the fitness app is also suited for groups of friends or colleagues.

"In the end, we want people to do more physical exercise and to adopt a healthier lifestyle in the long term." As vegetables and fruits are parts of a healthy nutrition, persons can click a button in the app per portion eaten. "We deliberately did not want our participants to count calories," Gnam says. "The big advantage of our smartphone app is that participants are given a direct feedback all around the clock as to how much of their planned weekly performance they have reached," the scientist adds.

To find out whether and to what an extent the app causes individual changes in the family, the study compares the behavior of test persons receiving the smartphone app with a control group of the same size. During a preliminary study of two months' duration in summer 2017, first data were collected for two small groups of test subjects. The SmartFamily study funded with about EUR 300,000 by the Federal Ministry of Education and Research is part of the SmartAct joint project of KIT, the University of Konstanz, and the University of Mannheim.

Being “The Research University in the Helmholtz Association,” KIT creates and imparts knowledge for the society and the environment. It is the objective to make significant contributions to the global challenges in the fields of energy, mobility and information. For this, about 9,300 employees cooperate in a broad range of disciplines in natural sciences, engineering sciences, economics, and the humanities and social sciences. KIT prepares its 26,000 students for responsible tasks in society, industry, and science by offering research-based study programs. Innovation efforts at KIT build a bridge between important scientific findings and their application for the benefit of society, economic prosperity, and the preservation of our natural basis of life.

Since 2010, the KIT has been certified as a family-friendly university.

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