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Publication date

2017

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Citation for published version (APA):

Dallinga, J. M., van der Werf, J. E., Janssen, M., Vos, S., & Deutekom-Baart de la Faille, M. (2017). *Which features are important for effectiveness of sport- and health-related apps? results of focus groups with experts*. Abstract from SCIENCE AND ENGINEERING CONFERENCE ON SPORTS INNOVATION, Delft, Netherlands.



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Which factors are important for effectiveness of sport- and health-related apps? Results of focus groups with experts

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ABSTRACT

A huge amount of sport- and health-related smartphone applications (apps) is available in the app stores [1]. These apps are often used by individual recreational athletes participating in running, walking or cycling [2]. Exercise apps ideally should support athletes and encourage them to be physical active in a frequent and healthy way. In order to reach these goals, more insight into the value of different app features is necessary. With this knowledge the health enhancing effects of apps can be improved. Therefore the aim of this study was to identify which features in sport- and health-related apps are important for stimulating and maintaining physical activity. Two focus groups (n=4 & n=3) were organized to identify and rank app features relevant for increasing and maintaining physical activity. These groups were facilitated by two of the authors (JD and JvdW). A nominal group technique was used. Seven behavioral and sport scientists participated in the focus groups consisting of three consultation rounds. In the first round these experts were asked to individually list all factors that they found necessary for increasing and maintaining physical activity. After that, all factors were collected, explained and listed on a white board. In the second round the experts were asked to individually rank the ten most important features. Subsequently, these rankings were discussed groupwise. In the last round, the experts individually made a final ranking of the ten most important features. In addition, they were also asked to appoint a score to each feature (0-100), to indicate the importance. The participants in the focus groups generated 28 and 24 features respectively in round one. As a result of the third round, twenty-five features were identified as most important. Factors with highest frequency in the top 10 most important factors were 'usability' (n=7), 'monitoring' (n=5), 'fun' (n=5), 'anticipating/context awareness' (n=5) and 'motivational feedback' (n=4). Factors with highest importance scores were 'instructional feedback' (95.0), 'motivating/challenging' (95.0), 'monitoring' (92.5), 'peer rating and peer use' (92.0) and 'motivational feedback' (91.3). In conclusion, based on opinions of behavioral and sport scientists several app features were extracted related to physical activity, with instructional feedback and features that motivate or challenge the athlete as most important. A smart and

tailored app may need to be developed that can provide feedback and anticipate on the environment. A feature for monitoring and a fun element may need to be included as well. Interestingly, usability was mentioned by all experts, this seems to be a premise for effectiveness of the app. In addition, based on the results of this study, currently available exercise app rating scales may need to be updated and revised [3, 4].

This research is cofinanced by 'Regieorgaan SIA', part of the Netherlands Organisation for Scientific Research (NWO) and by the Dutch national program COMMIT.

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