

Amsterdam University of Applied Sciences

Which features are important for effectiveness of sport- and health-related apps?

results of focus groups with experts

Dallinga, J.M.; van der Werf, J.E.; Janssen, Mark; Vos, Steven; Deutekom-Baart de la Faille, M.

Publication date

2017

License

CC BY

[Link to publication](#)

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.

General rights

It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations

If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please contact the library:

<https://www.amsterdamuas.com/library/contact/questions>, or send a letter to: University Library (Library of the University of Amsterdam and Amsterdam University of Applied Sciences), Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.

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

J.M. Dallinga*^{1,2}, J. van der Werf², M. Janssen³, S. Vos^{3,4}, M. Deutekom-Baart de la Faille^{1,2}

¹ Inholland University of Applied sciences, Faculty of Health, Sports and Social Work, Bijdorplan 15, 2015 CE Haarlem, the Netherlands

² Amsterdam University of Applied Sciences, Faculty of Sports and Nutrition, Dr Meurerlaan 8, 1067 SM Amsterdam, the Netherlands

³ Fontys University of Applied Sciences, School of Sport Studies, Theo Koomenlaan 3, 5644 HZ Eindhoven, The Netherlands

⁴ Eindhoven University of Technology, Department of Industrial Design, De Zaale, 5612AJ Eindhoven, The Netherlands

Email: j.m.dallinga@hva.nl

Website: www.hva.nl/krachtvansport

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.

REFERENCES

- [1] S. Yuan, W. Ma, S. Kanthawala, W. Peng, "Keep Using My Health Apps: Discover Users' Perception of Health and Fitness Apps with the UTAUT2 Model", *Telemed J E Health*. Vol. 21, pp. 735-41. doi: 10.1089/tmj.2014.0148. (2015)
- [2] J.M. Dallinga, M. Janssen, J. van der Bie, N. Nibbeling, B. Krose, J. Goudsmit, C. Megens, M. Baart de la Faille-Deutekom en S. Vos, "De rol van innovatieve technologie in het stimuleren van sport en bewegen in de steden Amsterdam en Eindhoven", *Vrijtijdstudies*. Vol. 34 pp. 43-57, (2016)
- [3] C. Abraham, S. Michie, "A taxonomy of behavior change techniques used in interventions", *Health Psychol*. Vol. 27 pp. 379-87. doi: 10.1037/0278-6133.27.3.379. (2008)
- [4] S.R. Stoyanov, L. Hides, D.J. Kavanagh, O. Zelenko, D. Tjondronegoro, M. Mani, "Mobile app rating scale: a new tool for assessing the quality of health mobile apps", *JMIR Mhealth Uhealth*. Vol. 3 pp. e27. doi: 10.2196/mhealth.3422 (2015)