One App to Rule Them All? On the Applicability of Sport Apps for Professionals in Sports

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Aim
The popularity of wearables and smartphone apps have changed how people engage in sporting activities (Dallinga et al., 2015; Janssen et al., 2017). Trends, such as working with e-coaches, sharing data, originate from the benefits that wearables and smartphone apps offer to sports enthusiasts. However, these technologies also may offer novel possibilities to professionals in sports as well. Trainers and representatives from public health management organizations, for example, may use these technologies to stimulate people to engage in sporting activities, provide instructions, monitor activities, and build communities.
Aims of the present research are 1) to identify which benefits sports apps offer to professionals in sports and 2) to discover to what extent there is consensus among professionals how sports apps can be used. This study contributes to sport and public health management and governance in sports by gaining more insight into the possibilities of sports apps from the perspective of professionals in sports rather than consumers.

Theoretical Background
New technologies offer new possibilities to people to reach their goals. Technologies differ for their extent to which they 'prescribe' what can and cannot be done with that technology. For instance, smartphones may be used for a wide range of activities, while heart rate monitors invite people for doing particular activities (see Pols (2011) for a comprehensive text on this matter). In other words, technologies differ for their extent to which they *afford* different ways of being used.

Affordances theory (Gibson, 1979) effectively captures how sports apps are being designed to meet the needs of their target group, the end user. Applicability for professionals in sports, such as in public health management, generally are less important for sports app developers. The question is to what extent professionals in sports use sports apps to accomplish their professional goals. Technologies can trigger physical, active behavior (Fogg, 2009) and theories such as the Fogg Behavioral Model can help professionals in sports to make effective use of new technological possibilities for fostering behavioral change and maintenance of sporting behavior.

Research Design and Data Analysis
A series of four Delphi-studies (Okoli & Pawlowski, 2004) has been conducted to answer the research questions. Four different groups of professionals were included in the study: (personal) trainers and coaches, physiotherapists and lifestyle professionals, representatives of sports clubs, and public health professionals. The study focused on cycling, running and hiking since the use of apps is widespread in these sports. Moreover, in the Netherlands (i.e., the context of this study) these sports are in the top five of the most practices sports. First, a series of semi-structured introductory interviews has been conducted with these groups (between two and six interviews per group). Interviews lasted at least one hour. Second,

Delphi-studies have been conducted for each group (between five and seven informants per panel, three rounds) in an attempt to determine consensus of the usefulness of sports apps for that group. The study was conducted in a six-month period in 2017. The groups of professionals differed considerably for their perseverance in our Delphi rounds, which made it more difficult to reach consensus among physiotherapists and personal coaches. In retrospective, these groups may prefer more personal modes of communication. Consensus was reached on most topics in all panels after round three. Below are reported the topics on which consensus was reached.

Results and Discussion
The primary outcomes of the study are that professionals in sports *do* use sports apps. Research questions are answered below. Three groups indicated 'monitoring' as being the most important activity. Be it individual clients or groups (e.g. registration sporting behaviors patterns in public areas), monitoring appears to be the most important benefit of sports apps for professionals in sports. Another beneficial function of sports apps was the ability to coach clients, patients and groups. Community building and stimulating sporting behavior seem to be less important. Importantly, various professionals remarked that sports apps were only used together with non-sports related apps such as Facebook and WhatsApp, since sports apps can be intimidating for beginners and light, recreational users.

Conclusion and Implications
It is concluded that professionals in sports have found ways to make sports apps useful in their professions and that there seems to be consensus on how sports apps can be used for monitoring and coaching purposes. However, one important restriction is that sports apps can be overwhelming for some groups such as beginners. Herein lies a challenge to integrate some essential sport-related functions in popular 'generic' apps to effectively use apps for promoting health public health. The outcomes contribute to sports management scholarship by providing more insight on how professionals can use apps to stimulate people to engage in sporting activities.

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