Are Augmented Reality Games a Solution to Tackle Low Physical Activity Rates? A Qualitative Analysis of Pokémon Go Players’ Motivation to Play and be Active

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Physical inactivity is one of the most important challenges in the 21st century. It is a challenge that organisations in the sport industry have the responsibility to tackle. Research (Eime et al., 2015) views sport organisations like sport clubs as key driving forces for increasing rates of physical activity, and promoting healthy lifestyles. In order to do so, they have to be innovative in attracting and answering members’ new expectations of sport programmes as they have changed (Borgers et al., 2016), in particular with the development of technology.

Although playing video games is associated to sedentary behaviour and overweight status (Vandewater, et al., 2004), technology has enabled the development of active gaming with avenues to increasing activity levels (Biddiss et al., 2010). Recently, much attention has been given to using mobile phone technology to intervene in health behaviour change (Lin et al., 2015) with augmented reality (AR) technology offering new opportunities. Released in July 2016, Pokémon Go has been a global mobile game sensation, with a total of 500 million downloads worldwide (Grant, 2016). Authors (Clark et al., 2016; LeBlanc et al., 2017) viewed this game as a potential effective physical activity intervention. Althoff et al. (2016) showed that the game could increase physical activity levels by more than 25%, and also impact sedentary people. However, research has yet to demonstrate the lasting effect of AR games such as Pokémon Go, to increase physical activity levels of players, and whether gamers’ motivation to play can transfer into a motivation to be and remain active. Therefore, this study aims to analyse players’ motivation to be active while playing Pokémon Go and to identify the potential for sustained physical activity levels due to AR gaming.

Theoretical Framework

Self-Determination Theory (SDT) is used to understand player’s motivation to play Pokémon Go and the motivation to be active through the game. According to Ryan & Deci (2000), extrinsic motivation is defined as doing something because it leads to a “separable outcome” such as an external reward like virtual points or symbols in gaming. The authors described intrinsic motivation as doing something because of its “inherent satisfaction” and this type of motivation is based on fun and challenges. Three core elements of SDT have been identified by Ryan & Deci (2000): competence, relatedness and autonomy. Competence is related to feeling capable of taking up a challenge of interest (Kapp, 2012) while receiving feedback directed towards one’s skill or ability (Rigby & Ryan, 2011). Scoreboards, rewards and status in AR games aid in increasing motivation as gamers feel more competent. Relatedness is the connection with other people and the inclination to care for others (Kapp, 2012). In AR gaming, players’ interaction and support for each other can aid needs of relatedness (Rauschnabel et al., 2017). Autonomy is having control over one’s own actions and be self-directed. Virtual avatars in gaming may provide players with higher autonomy satisfaction as they can be involved in any activities they desire through their in-game characters. Research has investigated SDT elements in the motivation to engage in physical activity (Teixeira et al., 2012), but no research has looked at the motivation to play active or AR games and the potential motivational transfer to live a physically active life.

Method

The research was carried out in Singapore. Due to the importance of technology in people’s lives nowadays and in particular in Singapore, the use of AR gaming and related motivation to be physically active is of utmost interest. An exploratory qualitative study has been undertaken to collect individual’s views on their motivation to play Pokémon Go and be active while playing the game and after they stop playing. Semi-structured interview of 12 participants residing in Singapore were carried out between February and April 2017. Snowball sampling technique was chosen whereby existing participants introduced more participants who were suitable for the study. Content analysis of the
interview transcripts was undertaken through a thematic analysis for each element of SDT related to motivation to play and to be active. Also, the research team was opened to additional themes that contributes to explain, confirm or disaffirm the potential lasting effect of Pokémon Go on physical activity levels. Participants were aged between 21 to 32 years old, 9 were male and 3 female. Six of the participants were Pokémon Go players at the time of data collection and six others were ex-players. Their use of Pokémon Go varied between ‘every day’ to ‘once every two weeks’.

Results
Participants were all physically active before they started to play the game, and some could describe an increase in their level of physical activity because of Pokémon Go. These participants felt that they were walking a lot more, had feelings of tiredness, lost weight or perspiring more than usual. The physical activity aspect seemed to be a side effect of playing the game. None of the participants had used Pokémon Go as a means for exercise. On the other hand, other participants felt that they were as physically active as before playing Pokémon Go as they had stopped involvement in their own form of physical activity to play the game or because they were ‘not that into the game’. Findings also revealed some hindrances and techniques that players used that could undermine the physical activity impact of the game. They would take different modes of transportation to earn distances and so rewards. They were also using third party apps to track the location and time appearance of rare Pokémon that allowed them to get to the correct locations promptly without wandering around. Participants mostly explained they rarely went out their way to catch Pokémon, and if they eventually did, their mode of transportation was usually by car or public transport and they would loiter in one location for a long time, waiting for Pokémon to spawn. All current players agreed that they were playing the game a lot less than in comparison to when they first downloaded it. Reasons were due to catching most of the Pokémon characters, feeling that the gameplay was too repetitive, friends quitting the game and technical issues. This questions the sustainable aspect of the game and its impact on physical activity level. Most participants wished the game be more interactive and include additional features to make it more appealing. Participants would favour exercise and health related features such as calories counter, step counter, leader board and related external rewards. But one participant strongly felt against as it would hinder people from playing Pokémon Go in the first place.

Discussion and further research
Both current and ex-players found themselves motivated to play through their relatedness with friends and their childhood memories of Pokémon. Players were also interested to find out about the new concept of AR gaming, which fulfilled the need for competency as well as the extrinsic desire to collect as many Pokémon as possible. Despite previous research (Althoff et al., 2016) indicated playing Pokémon Go is related to increase in physical activity, the present study suggests it might only be limited to short term effect. Furthermore, active players might reduce their PA level from intensive to moderate or circumvent the need to be active to play. The AR game’s impact does not seem to be sustained due to loss of intrinsic motivation to play and is not related to intrinsic motivation to be active. This also suggests that the motivation to play AR games does not transfer into a motivation to remain physically active. Participants were all physically active and further research can be conducted on individuals who lead sedentary lifestyles to investigate whether Pokémon Go has lead them to be more active, gain autonomy and motivated them to stay active. This research does not suggest sport organisations need to embrace new technology such as AR to increase and sustain members’ engagement in physical activity, but it looks at the trend of AR gaming and its potential attractive effect in getting people ‘accidentally’ active. Further research could investigate to what extent sport organisations could use this new technology advancement to their benefits as they need to innovate to satisfy existing and attract new members (Winand et al., 2013, 2016).