Pokémon Go and Research: Qualitative, Mixed Methods Research, and the Supercomplexity of Interventions

Alexander M. Clark¹ and Matthew T. G. Clark²

Pokémon Go is sweeping the world. In its first week, it became the most downloaded app in history. The newly released app is shown off here by its developers, the Japanese company Nintendo:

https://www.youtube.com/watch?v=2sj2iQyBTQs

The game involves collecting virtual characters on your cell phone by walking to catch the Pokémon that have been placed in prominent real public locations, such as parks, streets, and other notable public buildings and spaces. These characters can be collected via visits to these locations (known as “Poke-stops”) but can also be made to battle with other players’ characters too. Although many of us will not have played the game yet, most will have seen its players walking around us—switching their gaze from their phone to the world around them as they search for their next catch.

Uptake of the app has been unprecedented. It has only officially been released, as of July 22, 2016, in 30 countries, including Australia, Canada, Japan, and the United States, and has been downloaded 30 million times in the 2 weeks since its release (VentureBeat, 2016a). In this period, it has gained 26 million active daily users who use it for longer periods of time than Facebook, Twitter, and Snapchat combined (Digital Stat, 2016).

Use of the application appears to increase the daily physical activity of those using it by remarkable amounts (The Daily Dot, 2016; Mashable, 2016). Crucially, many users also fall into those groups that traditionally have concerningly low levels of activity—teens, preteens, and younger men (The Daily Dot, 2016). As such, sustained and regular use of the app stands to improve not only physical activity but also mental health, social capital, and social interactions in these key populations.

Pokémon Go is not only popular—it also represents a breakthrough in integrative gaming technology. While virtual collecting and battling games have existed for around 30 years, it is the first widely selling, augmented reality game that is fully immersed into actual geographical space. As the video link above demonstrates, this allows it not only to have an online dimension but also to incorporate actual physical activity requirements for players to be successful and to promote face-to-face social interactions between these players. Seen as an intervention in itself, it incorporates gamification to encourage users to walk at considerable lengths (up to 10 km) to new places, interact with each other socially in public physical spaces, and continue to sustain and increase their activity as the game progresses.

It’s easy to be stuffy and dismissive about Pokémon Go. That it’s “just another” video game craze, that enthusiasm for and use of it will wain, or that it’s only for young people with nothing better to do. However, it is the first mass market app that fully transcends the virtual, the spatial, the social, and the physical. It therefore represents a new integrative genre of gaming—which, like social media, speaks as much to the potential of a platform for future different applications than the game itself. This distinctive nature raises interesting and challenging questions for those doing research, notably on interventions into human behaviors, using qualitative or mixed methods.

Interventions as Supercomplex

Interventions, defined as integrated components to promote change in important outcomes, are getting ever more complex

¹ University of Alberta, Edmonton, Canada
² Lillian Osbourne High School, Edmonton, Canada

Corresponding Author:
Alexander M. Clark, University of Alberta, Edmonton, Alberta, Canada T6G 2R3.
Email: alex.clark@ualberta.ca; Twitter: @DrAlexMClark

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It is now recognized that many education and health interventions are complex, that is, they consist of multiple components that interact and potentially create new and powerful emergent effects (Craig, 2008). Pokémon Go, cast as an augmented intervention, takes this a step further via incorporating virtual, physical, and social dimensions as part of the game. These form an integral part not only of the game’s design but also the appeal to those who play it. Given the game promotes the transcendence of virtual, social, and physical space—understanding these interactive effects is key. While to date interventions with multiple components have been seen as complex, this move of interventions fully across physical, social, and virtual spaces demonstrates a move to supercomplexity (Barnett, 2011).

Research methods need to be used in more creative ways to fully describe such supercomplexity and better understand the effects of the supercomplex interventions that will define education and health in the future. Qualitative and mixed methods research are not only especially suited to describing interventions more fully but have particular benefits for understanding the interactive and emergent effects of supercomplex interventions on recipients (Clark, 2013). Those involved in designing quantitative evaluations of supercomplex interventions should consistently incorporate qualitative and mixed methods in their design.

The Power of the Social

For around 50 years, governments, health promoters, and researchers have been trying to promote regular physical activity, particularly among younger and sedentary people. Despite decades of research, remarkably, results have been surprisingly and consistently mixed. Pokémon Go provides early, yet compelling, evidence that interventions to promote healthy behaviors should incorporate social dimensions, if they are to be appealing and successful in promoting long-term behavioral change. The rapidity with which the Pokémon Go app has been uptaken is both encouraging and unnerving. Understanding interventions of this type require methods that can capture the uptake and effects of social dimensions in a comprehensive and sophisticated manner. Mixed method designs are ideal for this purpose, as they can incorporate measurement of key behavioral outcomes combined with qualitative studies to identify the full range of potential and actual benefits for possible future measurement.

Understand Intervention Mechanisms Better

Although it’s important to understand how interventions work, it’s also vital to understand why and how they work (or do not work), particularly across different settings and for distinctive populations. Part of the relative lack of progress in intervention research to promote regular physical activity promotion is related to the excessive perseverance of researchers toward interventions that are actually relatively unappealing to most of the less active recipients and thus, ironically unappealing to those who stand to benefit most from them. It is vital to rapidly generate a large body of evidence, across intervention types, regarding the elements necessary for positive effects to avoid such shortfalls in the future.

Future research into supercomplex interventions should not only focus on outcomes but should also consistently examine the mechanisms of effect of the interventions. Research into understanding intervention mechanisms, usually guided by approaches such as realist evaluation or critical realism (Pawson & Tilley, 1997) or process evaluation (Moore et al., 2015), are well placed to do this. These approaches generate valuable insights into how interventions (and in particular, their components) influence key outcomes of interest—explaining why interventions work when they do. This knowledge provides a vital and useful explanatory dimension to merely addressing whether an intervention works via measuring its outcomes. Such explanatory knowledge can then be utilized to improve the intervention in future or understand variations in its effects and outcomes in distinctive age groups, sexes, countries, and other populations.

More Rapid Research and Funding

The rapidity of technology uptake is at stark odds with the slowness of research and its funding. While innovations such as Twitter and YouTube took months to reach their tipping point into mainstream awareness and common usage, Pokémon Go reduced this to mere days. Research, particularly done in academic settings, conversely progresses at a snail’s pace. Proposals take long to develop and write because researchers’ schedules are busy and requirements are high, ethics applications can take weeks or months to develop and be approved, and funding decisions (even in wealthy countries) usually take around 8 months. Compared to the world of technology and app uptake, this seems like an eon.

More collaborative efforts are needed between corporations and academic researchers to better integrate smaller scale, rapid studies of applications in key populations. Future apps similar to Pokémon Go could be developed and optimized for patients with chronic disease, low levels of physical activity, or poor mental health. Working with industry should be encouraged to promote more advanced apps and better and more timely research.

Get Creative

The power of supercomplex platforms, like Pokémon Go, is exciting; they merely hint at the potential of augmented reality applications (VentureBeat, 2016b). Developers worldwide are now working assiduously to not only replicate the success of Pokémon Go in integrating the virtual, social, and physical worlds in a game but also further refine and enhance integrative platforms to create compelling, immersive, and addictive apps. The potential for such developments to improve health and prevention is compelling.

Researchers need to inform the development and application of such integrative apps to key areas and populations. These
could include those with or at high risk of disease and focus on the key aspects of their design that can moderate effectiveness in promoting uptake among older users and important outcomes, such as physical activity and medication compliance.

Creative projects are now needed to not only measure outcomes from supercomplex interventions but also understand them. Those with an expertise in qualitative and mixed methods research should be incorporated into teams leading projects focused on exploring supercomplex interventions.

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