MindMax: Using Videogames and Sport to Engage Young Men and Improve Wellbeing

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ABSTRACT

While there is growing interest in men's mental health, engagement with this population remains a challenge, suggesting the need for non-traditional approaches. In addition, the increased use of new and emerging technology (especially by young people) denotes its suitability for delivering such services. In 2015, the Australian Football League Players Association was the successful recipient of a Movember foundation grant to improve the mental health of Australian males aged between 16-35 years. The project proposed was a strategy incorporating wellbeing science, delivered via mobile technology, and leveraging interest in elite sport and videogames. This has resulted in MindMax, a new and innovative mobile application that delivers psychoeducation within an integrated digital sporting community, driven by real-world challenges and events. This paper describes the supporting iterative research and development cycle including participatory design and user (acceptance) testing, the technology build, and proposed evaluation of the final product.

Author Keywords

Wellbeing; mobile technology; gamification; videogames; sport; mental health.

ACM Classification Keywords

J.4 Social and Behavioral Sciences: Psychology; K.8.0. Personal Computing: General: Games

INTRODUCTION

Over the past decade there has been promising and inspiring progress in terms of raising awareness of men's health. For example, global campaigns such as the Movember foundation have contributed to a more open and positive conversation about some of the biggest men's health issues including prostate cancer, testicular cancer, mental health and suicide prevention. However, despite such progress, men's mental health continues to be a national (and international) concern and is now a major priority. There is growing awareness that traditional approaches to detecting and treating mental ill-health may not always cater for men's unique needs. For example, it has been proposed that the construct of masculinity can impact on health-related beliefs and behaviours, such as help-seeking [1]. As such, there is an increasing focus on new and innovative approaches to ensuring men get the support they need when they need it most.

Increasingly, there is consensus—both theoretical and empirical—that mental health is more than the absence of illness or dysfunction. The World Health Organization [2] defines mental health as:

A state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community.

Considering mental health in such a light prompts a dual focus on: (1) promoting support for men who experience mental health problems; and (2) supporting men to experience high wellbeing, a sense of competence and confidence, and good functioning. Importantly, there is evidence that mental health and wellbeing can be promoted and nurtured through quite simple strategies and behaviours, such as practicing mindfulness, building on strengths, and cultivating hope [3, 4].

Currently in Australia, approximately seven out of 10 people play digital games and 93% of households have a device for playing games, which increases to 98% if you have at least one child in the home [5]. A 2014 survey of current AFL players indicated that 69% play digital games; and, anecdotally that the primary purpose of playing these games is to relax and connect with friends. MindMax aims to digitally integrate psychoeducational material into these existing sports and videogames communities, in which young men already reside.

Additionally, there is significant support for the positive impact of commercial digital game play on the mental health and wellbeing for the majority of young people. Digital games have been found to have a direct positive influence on mood, vitality, self-acceptance, competence, autonomy and relatedness (for a review see [6]). Clear evidence of digital games improving relaxation and reducing stress has been found by multiple researchers using a range of subjective and objective measures [7-9]. In a sample of high-school students, Durkin and Barber [10] found digital game players exhibited higher levels of family closeness, less risky friendship networks and better attachment to school than non-players. Kutner and Olson [11] found that boys who did not play any digital games during a typical week had a higher risk of emotional disturbance compared to children who were using games for emotional regulation. Overall, there is clear evidence that non-excessive play can be incorporated harmoniously into everyday life and result in positive impacts on a range of mental health and wellbeing outcomes [6, 12].

Beyond these benefits, there is clear evidence that digital games are a means of building social connectedness and wellbeing among players. Our own research has shown that digital game play with other people and the experience of relatedness during play is associated with real world wellbeing [13]. Additionally, research has shown that players use digital games to facilitate real life relationships, meet new people and form relationships [14]. Finally, it is clear that the relationships formed and experienced by digital game players have similar depth and meaning as real life connections, with research showing that players will sometimes discuss sensitive issues with friends online that they would not discuss with the friends they have outside the game [15].

INTRODUCING MINDMAX

The MindMax project (funded by the Movember foundation) aims to create a digital community where people can discover, play and share ideas to build and strengthen mental health and wellbeing. Our focus is on helping males aged 16-35 years, but to do this we aim to create an inclusive environment to which all are welcome. The project brings together the Australian Football League Players Association[1] (AFL players), Queensland University of Technology and The University of Sydney's Brain and Mind Centre, in an integrated strategy utilising elite sport, videogames and wellbeing science.

We have taken a modular approach to develop our concept. By this we mean that each component - wellbeing science, AFL players' experiences and stories, and videogames - is utilised to communicate information, engage a user in an activity, or demonstrate how to do things that build mental health every day. For example, we want to communicate the wellbeing science through the experiences and stories of elite AFL players, the activities we create (e.g. connecting with others through video game play), events that we host, and the media (shareables) that are created by people using the app. In this way, we hope the three components can be seamlessly incorporated.

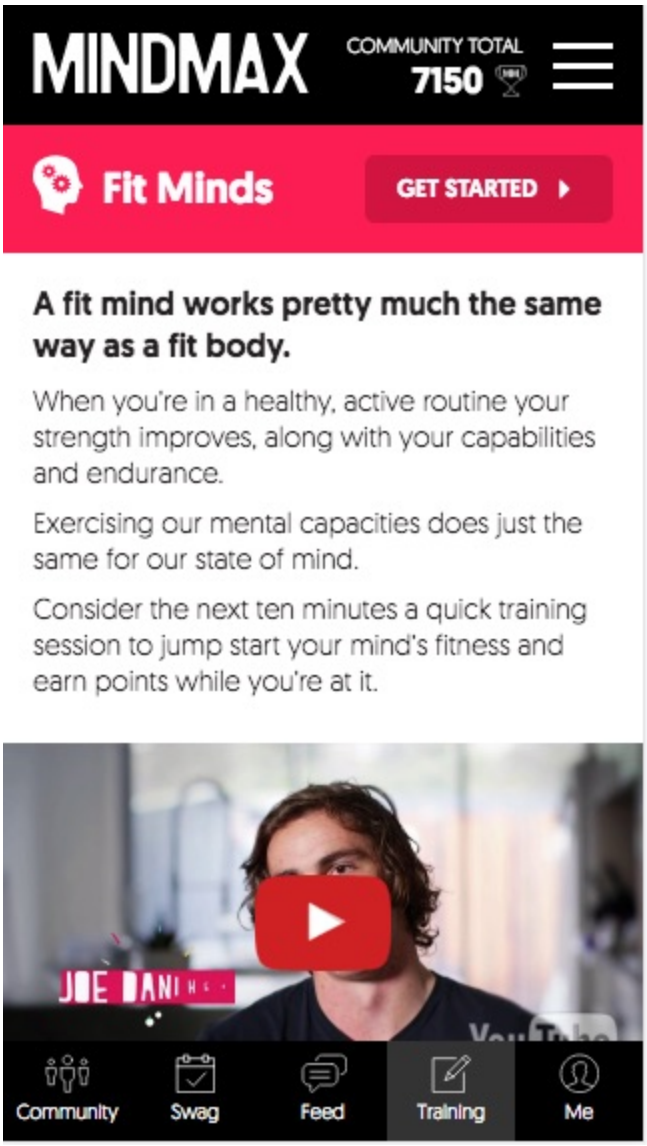

Figure 1. Early prototype of the Fit Minds module

Wellbeing Science

Our intention is to create a series of 'mini lessons' that build knowledge, understanding and the opportunity to apply evidence-based strategies that improve a user's mental health and wellbeing. See Figure 1 above. The cornerstone of the micro learning model are moments or

[1] The AFL Players' Association is the leading athlete advocate for Australia's national football league, representing the voices of players on all issues pertaining to themselves and the game. The AFL Players' is passionate about instilling a sense of integrity and belonging, and showcasing its members as people first and athletes second.

bite size chunks of information. These micro-learning moments have one clear learning objective; are three to seven minutes long; and are presented in ways that are engaging and interactive. This allows for faster processing by the brain and improved knowledge retention.

Each digital module has the same elements and follows the following micro-learning rules, to keep it:

- *Simple:* all media, content, images etc. must be dedicated to same goal;
- *Action-oriented:* individual tasks for each moment and opportunities to demonstrate learning;
- *Connected:* a connected curriculum of moments (i.e. into levels) within modules which build on each other and lead to a summative statement; and
- *Engaging:* make the content interesting, relevant and helpful to the target audience.

Programs for mature learners (17 years plus) are competing with everything else that is in their life. Therefore, along with adhering to the foundations of an appropriate model, programs need to present an engaging curriculum delivered in a flexible way that demonstrates an appreciation of their existing knowledge base and life experience. Within this, creating the opportunity for peer learning is critical. The online modality has shown that bespoke communities can be created through sharing ideas, experiences and a willingness to learn.

The key elements of the modules are short montage videos (largely featuring elite sportspeople and animations voiced by experts) that communicate the content and short easy to complete activities. The ideas behind the education modules is that they should not feel like education. They should feel like a sequence of insightful videos with questions and activities that you want to watch, answer, do and share. Key to this is the creation of 'shareables' throughout the modules. Shareables are the output created by completing an activity. The activities are short, easy-to-complete tasks that require user interactions such as completing forms, drag and drop elements, multi-select items, etc. The loop we want to create is that when someone completes an activity it is shared into the community space enabling it to be seen by many and hopefully inspiring them to go and do the module themselves or create similar shareables and share them into the digital community space.

Sport and Videogames

Sport (specifically AFL) and videogames are our way to engage our target audience. We aim to draw on commercially available videogames that sporting and gaming communities already use and encourage competition and sharing of gaming experiences (through leader boards, gaming events with AFL players and general community). Additionally, we aim to gamify elements of the MindMax interface to maximise engagement and motivation.

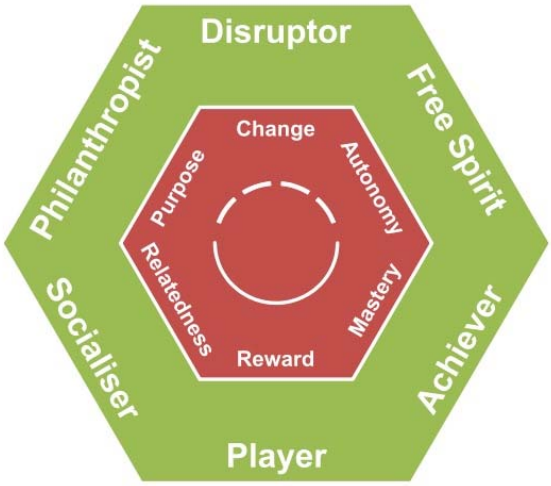

Figure 2. Hexad model of gamification player types [18]

Meaningful Gamification and Gamification Player Types

Gamification systems typically motivate engagement through the use of rewards (e.g. points, leaderboards) - the risks of which are creating a dependence on rewards, and extinguishing intrinsic motivation [16]. Conversely, meaningful gamification attempts to tie an experience to pre-existing beliefs, and utilise the concepts of Self-Determination Theory in order to design an intrinsically rewarding experience [17]. This can take the form of creating space for free play; exposition (stories embedded in real world settings, as well as the freedom to create your own); choice (e.g. customisation of avatars and privacy settings); information that is contextually embedded in the real world; social engagement; and reflection (connecting engagement and learning to users' personal interests and experiences) [17]. See Figure 2 above.

In tandem, work on gamification player types reveals distinct categories of users that can influence design choices [18]. These are described in terms of: *philanthropists* who are altruistic, but need a purpose; *socialisers* are motivated by social connectedness; *free spirits* enjoy creation and exploration; *achievers* enjoy challenge and task completion; *players* need extrinsic rewards; and *disruptors* want to change the system, which can force positive or negative changes via the testing of boundaries.

MindMax attempts to make a space for meaningful gamification and a range of player types via its promotion of a digital community, and provision of real world challenges. Users will be encouraged to share their experience of using the app with an integrated points system for posting (*players*), because of the option to interact with other users and be part of a team (*socialisers*), and to demonstrate engagement in any real-world events or challenges (*achievers, socialisers, players*). Additional real-world embedding and endorsement will be facilitated by the use of celebrities (e.g. elite sportspeople) in both the

montage videos and as active users of the app. Further, participatory design and research processes will aid in the design of community challenges that are in line with the overarching goals of the project: to increase wellbeing across the population (*philanthropists*), and create a nationwide conversation about men's mental health (*disruptors*).

Participatory Design

Participatory design was utilised in order to overcome the challenges of embedding a health intervention in the everyday lives of young people [19]. Workshops were conducted across diverse locations (the capital cities of Melbourne, Brisbane and Sydney) with younger and older AFL players and fans; younger and older gamers; and mental health and wellbeing consumers, clinicians, researchers and academics.

In summary, participants preferred the use of an app to that of a website, suggesting that prototyping could begin on a website. The idea of a mental health and wellbeing app was well-received, as was the idea of passive data tracking that could eventually result in a personalised experience. Participants expressed annoyance at having to expend excessive effort in continually tracking their own data and expected the app to "know" information that had been already provided to the smartphone, either via another app or via the smartphone's in-built features, such as a pedometer. The introduction of a gaming component was thought of as difficult to execute well, however gamification was seen as useful with gaming used as a prize or an event. Participants also believed that the app needed to be free and lightweight (ready for low bandwidth) and preferred having a light content version with continual updates. Finally, they expected rewards for continued engagement.

User (Acceptance) Testing

During the prototyping, fifteen participants will be engaged to evaluate the usability and user experience of the MindMax tool. Initial user experience testing with three users revealed an appreciation for the gamification of content (points for posting content), as well as sharing the app with known AFL players. Concerns were expressed for users' privacy (what posts are shared in the community feed), as well as the possibility that users might only 'like' or post content in order to get points and not meaningfully engage with the app. Iterative evaluation of subsequent prototypes are planned up until launch in March 2017.

NEXT STEPS AND PLANNED RESEARCH

A naturalistic trial is planned to evaluate the wellbeing impacts of MindMax, including engagement, efficacy and effectiveness. This will entail participants engaging with the app normally and being asked to answer a survey on a regular basis. Specifically, this will involve recruited participants being directed to an external website where they will be provided with information-consent details, complete sign-up for the trial and complete Time 1 measures. At the conclusion of Time 1 data collection they will be directed to the appropriate app store to download the app. They will use the app naturally. At the appropriate times, they will be sent a reminder and directed to the external website to complete Time 2, Time 3 and Time 4 measures, as well as the last day of the trial (maximum 180 days). Trial participants will be remunerated for their time.

A multi-pronged qualitative evaluation will be conducted in tandem with the naturalistic trial, focusing on the impact of MindMax on a subsample of users' wellbeing (including social connectedness), as well as their user experience. This will include:

- A comparison of the impact of each module and an evaluation of the impact of one module over time
- A social media analysis to evaluate public perception of the project.
- Deeper analysis of user experience will be conducted using fortnightly interviews and usage patterns analysis of a small cohort of users.
- Participatory research is planned in which key stakeholders and users of the app will help design events and challenges for the wider MindMax digital community, as well as analyse any content produced from these challenges.

CONCLUSION

The overall MindMax project is proposed as a three-pronged integrated strategy including wellbeing science, elite sport and videogames. The realisation of this strategy is *MindMax: a digital community where people can discover, play and share ideas to build their mental health and wellbeing*. At the time of writing, MindMax is in the final stages of build prior to launch. Future evaluation, both of the application and the project as a whole, will provide invaluable insight on how to harness the strengths of new and emerging technology in furthering men's mental health and wellbeing at a nationwide level.

ACKNOWLEDGEMENTS

The authors would like to thank the Movember Foundation for funding this initiative, and all the participants who have shaped the design and development thus-far.

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