

Gaming for safer sex

Citation for published version (APA):

Brüll, P. (2019). *Gaming for safer sex: improving explicit and implicit cognitions toward safer sex precautions in young people*. [Doctoral Thesis, Maastricht University]. ProefschriftMaken Maastricht. <https://doi.org/10.26481/dis.20190206pb>

Document status and date:

Published: 01/01/2019

DOI:

[10.26481/dis.20190206pb](https://doi.org/10.26481/dis.20190206pb)

Document Version:

Publisher's PDF, also known as Version of record

Please check the document version of this publication:

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Valorization

The term knowledge valorization was defined by the National Valorization Committee in 2011 as the “process of creating value from knowledge, by making knowledge suitable and/or available for social (and/or economic) use and by making knowledge suitable for translation into competitive products, services, processes and new commercial activities”. The conjunction “and” – linking the first part of this definition related to the creation of value through knowledge with the second part of this definition related to the valorization of knowledge mainly in light of its economic impact – suggests that the term value is defined more as the material or monetary worth of knowledge, and less as the usefulness of knowledge in the process of scientific progress. This is a dangerous road as it may lead to understanding knowledge as a marketable product representing a specific worth that can be compared to the price paid for it by funding entities, thereby reducing knowledge to an economic asset with a required return on investment. Rather than asking about the economic gain of knowledge resulting from a study or a research line, a more appropriate question to ask may be about what we do not know and where we can make progress. It was this curiosity-driven research that lead to unexpected revolutionary discoveries. For example, radio waves were not called “radio waves” when they were mathematically predicted by James Clerk Maxwell in 1867, because radios did not exist yet. Only after Heinrich Hertz demonstrated the reality of these waves in 1887 (and coined the term “Hertzian waves”) and Guglielmo Marconi used them for communication by developing a transmitter and receiver system, these waves revolutionized communication and were renamed “radio waves” around 1912. However, Maxwell’s intent was not to discover how to revolutionize communication. His field of research was fundamental mathematical physics where he formulated the now well-known Maxwell’s equations for electromagnetism.

The view of knowledge as a product can, of course, be appropriate for specific branches of science (e.g., medical science), but it can hardly be applied to humanities or social sciences. Especially, research in the latter branch generates knowledge that represents more than economic value alone. For instance, research in the field of psychology, focusing on improving health, well-being, and pro-social attitudes on a personal and group level, contributes to improving the social fabric people live in. If the freedom of curiosity-driven research and/or research in domains that do not promise direct economic gains is reduced (or outright eliminated), science risks to sacrifice knowledge that has its own intrinsic value for a short-sighted race to win economic competition by generating knowledge that international markets demand to produce items that promise economic gains. As the focus of this dissertation is to improve safer-sex behavior of young people and thereby reducing the number of young people who acquire preventable sexually transmitted infections (STIs) – including infections with the human immunodeficiency virus (HIV) leading to the acquired immune deficiency syndrome (AIDS) – the honored reader should decide for her or himself how many infections constitute a (not only public health) problem worth attention. As the practical relevance and the innovative nature of the serious game that emerged out of this line of work has

been stated in detail throughout this dissertation, they will be repeated here only briefly. Reducing the numbers of preventable STIs in a young population does not seem to be a task that has to be defended, rather than a task that needs further (also financial) support.

Relevance

Given that young people at risk of acquiring preventable STIs are rarely prioritized in STI prevention programs, testing a novel and innovative way to deliver behavior-change techniques aimed at reducing the STI rate of these young people is a valuable step toward including this population – that spends an increased amount of time in virtual online environments – in STI prevention programs. With a quarter of a billion young people aged 15-24 years acquiring a curable STI for the first time – accounting for nearly half of all new curable STIs – it is of particular importance to identify new ways to successfully address this population, as sexually transmitted diseases (STDs) also facilitate HIV transmission.

Target groups

The serious game developed during this project aimed at increasing the safer-sex behavior of young people, aged between 18 and 25 years. Thus, young people of this age group are the main targets of the intervention, delivered as a serious game. However, depending on local legal requirements, the age range could be adapted to adolescents as well. Further, this dissertation must be of interest to developers of serious games aiming at reducing STI rates among young people (e.g., public health officials), as it contains new information about, for example, preferences young people have toward presenting the topic of safe sexual intercourse in an online gaming environment. Additionally, this dissertation targets researchers who are interested in finding novel ways to present sensitive topics to a young population by using newly emerging virtual communication channels.

Activities and products

This work is also of interest to anyone, especially funding entities, who wishes to support research to improve serious games as a delivery tool for interventions. Given the rising costs of developing serious games (e.g., including virtual reality scenarios), funding the development of interventions using a gamification approach must be adapted not only to the costs of research but foremost to the reality of high development and production

costs for a product that risks being outdated within a short period of time. As an economically driven return on investment can hardly be expected, there is, however, the possibility of a social/societal return on investment, by significantly reducing STI rates of young people that can be reached easier by serious online games than by more conservative means of distribution.

Innovation

Combining different behavior-change techniques in a gamified online environment that targets three protective behaviors in young people has never been done before. This innovative and novel approach allowed us to better understand what young people need and expect in a virtual online environment that focuses on safe sexual intercourse. It further showed that combining various techniques and focusing on several outcome behaviors in one game is a complex task that needs more research to understand if and under what circumstances such combinations could be effective.

Schedule and implementation

Our research has shown that a limited number of gaming sessions aiming at implementing three outcome behaviors (or at least the intention to perform them) is not sufficient and that simply increasing the number of sessions can be counterproductive. By having done the first step toward combining several behavior-change techniques aimed at three outcome behaviors in a serious gaming environment, future research in how to develop an attractive and holistic game could be stimulated. Further, a website that accompanied the project informed a broader audience – by using blog posts – about risks of unsafe sexual intercourse and benefits of safer-sex behavior, thereby contributing to the valorization of knowledge.