



Drug content in games for mobile devices

Conteúdo sobre drogas em jogos para dispositivos móveis
Contenido acerca de drogas en juegos para dispositivos móviles

How to cite this article:

Pasquim HM, Lachtim SAF, Soares CB. Drug content in games for mobile devices. Rev Esc Enferm USP. 2019;53:e03520. DOI: <http://dx.doi.org/10.1590/S1980-220X2018039403520>

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ABSTRACT

Objective: To analyze drug content in games for mobile devices. **Method:** An exploratory study implementing a qualitative approach. The collective health critical perspective was taken in relation to the ideology of prohibitionist education and the foundations of emancipatory education in the area of drugs. Games about drugs were selected in a virtual store based on inclusion and exclusion criteria. Content analysis was performed with the support of an interpretative model specific to digital games used to identify textual and procedural messages in games. **Results:** Nineteen (19) games were analyzed. Most of them reiterate prohibitionist positions and play the role of transmitting prescriptive and normative information, assuming the objective of disciplining risk behaviors. This evident limitation demonstrates an important contradiction that games are strategies of contemporary language, with outdated and unscientific content. **Conclusion:** Despite the potential of virtual tools, the analyzed games are marked by intense simplification regarding the phenomenon of drug use and stimulate fast preprogrammed responses that do not go beyond memorization and conditioning. A need for scientific updates and incorporation of critical educational content persists in the area.

DESCRIPTORS

Games, Recreational; Mobile Applications; Drug Users; Harm Reduction; Health Education; Public Health Nursing.

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Received: 08/31/2018
Approved: 02/21/2019

INTRODUCTION

The term applied games⁽¹⁾ refers to games designed and used in a given society to approach issues in a fun way which are pressing in the contemporary world. There is a strong need for careful analysis of what has been proposed as educational initiatives in the form of games, particularly in the health area and in the context of digital games for mobile devices, given their enormous quantity and capacity to mobilize interest.

The use of games in public health is not new⁽²⁾. However, it is necessary to be careful with the naive fascination with technology. Games are recognized as easy-to-distribute and potentially effective tools for health education⁽³⁾. One study shows that professionals intuitively choose games for use in pedagogical practice and do not prioritize evaluating educational characteristics⁽⁴⁾.

A systematic review⁽⁵⁾ which investigated mobile applications aimed at tobacco cessation suggested by major online stores showed that only two (4%) had any scientific support.

From the scientific point of view, drug education from the perspective of collective health proposes to discuss an explanation of psychoactive substance consumption based on their social roots, as well as the construction of political responses to be taken collectively which conforms as an emancipatory and non-disciplinary educational process⁽⁶⁻⁷⁾.

This research was based on the assumption that applied games have advantages over the unidirectionality of traditional educational tools, since they have procedural rhetoric⁽⁸⁾, which means they use persuasion as operated by the rules of the game. In other words, games do not only convey textual and graphic messages, but they articulate content in various formats, which make up a system of rules which in turn guides intentionally created virtual relationships in a playful environment.

Recent systematic reviews⁽⁹⁻¹⁰⁾ implementing appropriate methods for scientific analysis of mobile applications show that evaluating health applications is still a challenge and it is not possible to recommend a single approach. Thus, several recommendations from these syntheses were taken into account in this research, especially to deepen the analysis beyond a description of the applications.

The objective of this study is to analyze games for mobile devices that address the issue of drugs (alcohol, tobacco, steroids and/or illegal drugs). Therefore, the purpose of the study is to support health professionals, technology developers and game users to provide answers to problems related to drug use from the explanations and educational proposals forged in the field of collective health.

METHOD

STUDY DESIGN

An exploratory study implementing a qualitative approach.

DATA COLLECTION

The games were obtained by convenience in the Google Play Store, a virtual store for Android operating system devices. The sample consisted of applications which were available free of charge in Brazil. It should be noted that the commercial availability of applications differs between countries according to national regulations.

Google Play Store allows one to specify some search categories and subcategories. This study chose applications as the category and games as the subcategory. Using the “search bar,” the results were selected from a set of keywords in English (drugs, marijuana, smoke, alcohol, tobacco, cocaine, steroid and educative). Finally, the “like” tab was used to identify other applications based on the results of the initial searches.

In October 2017, 235 applications were initially identified at the source. The inclusion criterion of the digital games was: games which approached the drug theme in their description in the virtual store. Applications which offered the following were not considered games for this study: wallpaper with images of drugs; those which estimated alcohol levels; those which taught how to make cocktails; or those which estimated the amount of money saved on drug abstinence. For this reason, 189 applications were excluded from the analysis. Finally, games which focused on the illegal drug trade from the trafficker’s point of view were also excluded. In total, 19 games about drugs were selected for analysis and identified with the letter G, followed by their number.

Chart 1 – Games selected for analysis.

| | | | |
|-----|-------------------------------|-----|----------------------------------|
| G1 | 向毒品說不 | G11 | <i>Alejate de las adicciones</i> |
| G2 | Pure Rush | G12 | <i>Escaleras y toboganes</i> |
| G3 | BADS | G13 | Lungs vs. Cigarettes |
| G4 | Aversion | G14 | <i>L'isola dei fumosi</i> |
| G5 | Nelzon | G15 | Koala kaland! |
| G6 | Fight For Future 2.0 | G16 | Don't Touch the Drugs |
| G7 | <i>Trânsito Consciente</i> | G17 | Weed Green Rush: legalize it! |
| G8 | <i>Os Desafios de Darinho</i> | G18 | InfoDrogApp |
| G9 | <i>¿Qué pasa si te pasas?</i> | G19 | Roid Man |
| G10 | Getting High? | - | |

DATA ANALYSIS AND PROCESSING

A thematic content analysis⁽¹¹⁾ was developed. Therefore, data were pre-analyzed, coded and interpreted. The pre-analysis stage involved trying out the games by the reviewers, i.e. the direct contact with the material. To do so, the games were played and all their levels were accessed. During the coding stage, the researchers sought to categorize the games into relevant registry units. Information was

recorded on a spreadsheet by two reviewers, experts in the area of drugs and collective health. Finally, the classification was performed from the theoretical categories described by Consalvo and Dutton⁽¹²⁾ to identify the content in the games. In this sense, games can be understood as interpretable “texts”. The “text” of a digital game has four elements: object inventory (items collected, created, purchased, etc.); interface (player interaction with the game system, feedback, avatars, etc.); interaction map (action or dialogue with characters and other players); and gameplay (how the game experience takes place). After categorizing the data, the messages on drugs were interpreted, taking collective health⁽¹³⁾ as a critical analysis reference.

RESULTS

Games do not feature theories, learning assessment resources, nor explicitly explain their educational goals and content. In this sense, the intention of the game designer can only be inferred by the rhetoric of the game.

Thus, the collected data will be presented according to the interpretive model adopted for digital games: object inventory; interface; interaction map; and gameplay⁽¹²⁾.

OBJECT INVENTORY

Using the object inventory as a reference element, it is possible to identify that six (31%) of the 19 games exclusively refer to legal substances (G7, G8, G13, G14, G15 and G19): medications, cigarettes and alcohol. The majority (68%) include items representing illicit drugs: LSD, cocaine, heroin, crack, and the most frequently cited drug, marijuana.

A single game presents drugs as a commodity (G17). This highlights processes of criminalization, production and circulation, giving visibility to the social aspects that determine the diversity involved in substance use. However, the ultimate goal of the game is to induce individuals to buy marijuana from the company created by the player. This objective highlights the liberal, free-market perspective, which reiterates the drug’s market potential. The procedural rhetoric of the game is articulated with textual messages in favor of legalization.

Only three games (15%) have items in their object inventory which may be related to harm reduction, such as a marijuana vaporizer (G17), a water bottle (G16), and an air bubble (G14). In such cases, the player’s character (avatar) avoids the harmful effects of the drug combustion or reduces the effects of the substances when they buy a vaporizer, drinks water or breathes clean air, respectively.

An analysis of the interconnected elements evidences dissonance in the intended conduct, as in the message conveyed by game G11, in which the player should avoid consuming steroids for aesthetic purposes, but they are encouraged to collect all the dietary supplements they can obtain, as well as to lifting weight without resting. An inadequate diet and lack of rest are basic contraindications to the goal of gaining hypertrophy in a healthy and alternative way to steroid use.

INTERFACE

Regarding game interface, it is possible to verify that some try to create empathy through the avatar, allowing users to choose their gender (G2, G3 and G18), name (G3 and G10), clothes, shoes, skin and hair color (G14). No game presented the social dynamics or social class of the characters (avatar) who use drugs.

Not all the games recommend specific target audiences, but some developers describe games as being aimed at workers (G12), drivers (G7), children (G11) or adolescents (G2, G3, G4, G5, G6, G9, G10, G13 and G18). More than half of the analyzed games (52%) are aimed at young people.

Four games (21%) offer feedback, with positive or negative reinforcement, through which a gain in skill is expected (G2, G4, G5 and G16). The continuous delivery of reinforcement messages is the element that guides players in the virtual environment. Simple messages like “Good choice” and “Good work” appear when players advance. Other forms of positive reinforcement can also be found, such as gaining points (G1, G7 and G15), obtaining treasures (G8), receiving greetings from the father (G6), receiving medals (G9 and G13), trophies (G15), and developing skills or avatar characteristics (G19). Rewards and progression in the game generally reinforce the negative message when related to drug use. Chemical dependence and death are presented as unavoidable consequences of drug use in two (10%) games (G1 and G16). Even without representing a tragic event, the other games do not legitimize any possibility of pleasant or positive interaction with drugs, except game G17, in which it is possible to get rich and receive prizes by selling good quality marijuana in countries which have legalized this trade.

A quiz game asks questions about the environment, the company, and the source of the substance that the user plans to use. These questions, according to the game itself, aim to produce self-reflection before drug use (G10).

In general, the games do not approach drug users as subjects with rights. Only G12, which takes the form of a board game, addresses the labor rights of drug users.

INTERACTION MAP

The interaction between users/characters/external collectivity is limited. Only two games (10%) can be played by more than one user at a time (G12 and G18), and the only possible interaction between players is restricted to the competition between them.

Four games (21%) encourage the player to share messages predefined by the game on social networks (G3, G9, G17 and G18). Another form of external interaction is by providing local network contact for protection and prevention, only observed in one game (G9).

No internal social network was identified (chats, post boards or user forums). The existence of a network would indicate the possibility of direct interaction between players. Some games allow the avatar to interact with other characters, which are: trafficker and colleagues (G6), friends (G3), scientist (G14), clients (G17) and passers-by (G9).

The dialogues are fixed (G14 and G17) with two (G3) or only a few choices (G6 and G9), which lead the avatar to accept some drug or not to experience any.

Among the 19 analyzed games, eight (42%) presented drugs as inanimate obstacles which needed to be avoided or to be diverted (G1, G2, G5, G7, G8, G14, G16 and G19). Four (21%) attributed human characteristics to drugs (G4, G8, G11 and G13), giving them characters or representations with hostile intentions, presented as enemies or villains. In that case, the players assumed the role of drug victims. Thus, players had to run away from drugs to save themselves.

Anthropomorphism in these games is a resource used to convey messages and values which are inherent in the war against drugs. The skills conferred to the virtual representation of drugs favor pharmacological aspects associated with possible harms from their consumption. For example, drunkenness at the wheel is represented by an increase in reaction time and reduced visibility (G3 and G7).

GAMEPLAY

In general, the initial opening of the games presents simple situations and of quick learning to introduce the game, except for G17, which proposes interaction in different scenarios simultaneously. In this game, the player must administer the dispensary in a medical marijuana clinic and influence other countries to legalize marijuana through businessmen and politicians.

The games can present registers of performance, life, times, records and scores. Commands do not require great skill, but may present a complexity curve in progression, as in "beast mode" (G19), when the game speed greatly increases.

The background of games can portray the human body (G1 and G14) (10%), common places such as schools, nightclubs, home environment, streets and work (G2, G3, G5, G6, G7, G9, G15, G18 and G19) (47%), or fantasy and imaginary places (G4, G8, G10, G11, G12, G13 and G18) (36%).

Regarding the playfulness dimension, two games cite their own studies which support their playfulness potential and results (G2 and G7). However, the player's experience is oriented to a single correct direction in the virtual interaction, which seems to limit the playful experience to a great extent.

Textual rhetoric, when it exists, is related to the risks and effects of drug use, with the exception of two games (10%) included in this review (G17 and G10). Some pragmatic information can be identified in games, which does not help to understand the social process of problematic drug use in any way. It should be noted that many overly negative statements are made without references.

Only four (21%) application games (G3, G7, G10 and G13) do not present abstinence as a mission, suggesting that drug use is almost always associated with dangerous consequences for the individual and for society. Therefore, the messages prioritize information against drug experimentation and proclaim the early need for managing and surveillance of behavior.

DISCUSSION

The war on drugs is an ineffective and intolerant policy⁽¹⁴⁻¹⁵⁾. The Public Health and International Drug Policy report⁽¹⁶⁾ developed by the Lancet and Johns Hopkins University Committee blames the war policy for increased violence, disease transmission, discrimination, unnecessary physical pain, and diminished health rights. In addition, the war on drugs negatively contributes to the educational process. The construction of support materials that should facilitate the education process about drugs leads to prescriptive and alarming educational practices which further mystify drug use⁽¹⁷⁾.

Game G17 expresses an antagonistic social position to the conservative position of strengthening the war on drugs and prohibitionism. It assumes a liberal view that reiterates the market potential of drugs. The liberal and conservative positions are also criticized by the collective health⁽⁷⁾.

Liberal discourse, which denies or minimizes the waste and social constraints related to drug use, does not facilitate understanding the problem, nor does it contribute to developing actions which respond to the health needs of drug users⁽⁷⁾.

In another sense, harm reduction policies and programs have dramatically improved health aspects which have been previously ignored in marginalized populations⁽¹⁸⁾. These undoubtedly offer mediation to immediate problems. It is also observed that there is a need for an analysis which recognizes the social process of the drug problem and for politically active action which allows the perspective of real and long-term solutions to the growing difficulty imposed on society by drug use⁽¹⁸⁾, thereby overcoming a harm reduction approach which is only "pragmatic"⁽⁵⁻⁶⁾.

The analysis of the games did not reveal any position related to the critical perspective of drug education. On the contrary, the contents identified in most games depart from the concept of risk to establish preventive warnings. In this case, the target audience is young people, who are considered to be naturally vulnerable.

Despite strategies to build an empathic link between player and character, most games do not favor player empathy with drug users, but rather reinforce the stigma of those who use illicit drugs, which goes against harm reduction advocated by collective health⁽⁷⁾.

Some games have a race as the rhetorical procedural device. This is the case for G2, G5, G15 and G19. In such cases, decisions must be made quickly while at full run. This seems to represent well the hastiness in "The Burnout Society"⁽¹⁹⁾, where the human condition is embodied in an exhausted-and-running body.

Most of the games were designed to direct the player's experience to a "right" way of interacting with the virtual environment, which represents underutilization of the free and participatory game potential⁽²⁰⁾. After all, digital games are more than a means of content transmission. They can bring people together, gaining meaning as a space for dialogue, can produce reflection and stimulate political participation⁽¹⁴⁾.

Digital games can include numerous forms of interaction⁽¹⁾ between users and between users and the game designer, which would enable sharing drug use experiences and contexts in different social groups, establishing links with the concrete reality and allowing critical reflection on the consumption of drugs. Consequently, gaming would increase the possibility of repercussions and reduction of harm outside the virtual world.

This creative participation and authentic thinking in the analyzed games were not privileged. There is no encouragement to expose and criticize preconceived and erroneous beliefs. Thus, the games play a restricted and very questionable role, since they only transmit very partial information, almost always on the harm caused by drugs, in addition to other negative aspects. The objectives are to discipline behavior and generate social panic, with incentives to pre-programmed responses.

This evident limitation of games which approach the subject of drugs demonstrates important contradictions, presenting outdated and little scientific content even though the games are strategies of contemporary technological language.

The analyzed results seem to be consistent with criticisms of hegemonic education about drugs. Other studies are needed to support the development of a new generation of games applied in the area of drugs, especially studies which give visibility to the playing moments in the games, i.e. the players' point of view.

This analysis has limitations, since some rigorous criteria used in the revisions of scientific literature could not be

applied in the context of commercial application stores, such as exhaustive searching and Boolean logic.

CONCLUSION

Despite the potential of virtual tools, the analyzed games are marked by an intense simplification of the question, with prescriptive and normative communication which conveys messages using a generic approach, stimulating the speed of preprogrammed responses and not extrapolating memorization.

Games about drugs could help understanding how these substances relate to current social structure and dynamics, exposing the social determination that underlies problematic drug use, in particular by promoting a safe space for learning. However, no critical reflection on drug consumption was observed. In this sense, the analyzed games do not seem to be able to foster reflections on the epidemiological profiles of social groups and health needs.

Developing games with themes and objectives related to health is a complex task that involves specific and technical knowledge. It is strategically possible to benefit from the analyzed games and other commercial games to sensitize, problematize or transmit useful information, such as rights, Unified Health System (*SUS – Sistema Único de Saúde*) principles and reflections on risks and harm reduction, as long as they are integrated with other strategies which promote encounters, bonding and criticism between players.

Finally, the potentials and limitations of the games resulting from this study should be taken into account for developing new applied games with a critical approach.

RESUMO

Objetivo: Analisar o conteúdo sobre drogas de jogos para dispositivos móveis. **Método:** Estudo exploratório de abordagem qualitativa. Tomaram-se por referência a crítica da saúde coletiva ao ideário da educação proibicionista e os fundamentos da educação emancipatória na área de drogas. A partir de critérios de inclusão e exclusão, selecionaram-se jogos sobre drogas em loja virtual. Procedeu-se à análise de conteúdo, com apoio de modelo interpretativo específico para jogos digitais usado para identificar as mensagens textuais e procedimentais nos jogos. **Resultados:** Dezenove jogos foram analisados. A maioria deles reitera posições proibicionistas e cumpre o papel de transmitir informações prescritivas e normativas, assumindo o objetivo de disciplinar comportamentos de risco. Essa evidente limitação demonstra uma importante contradição, a de que os jogos são estratégias de linguagem contemporânea, com conteúdos desatualizados e pouco científicos. **Conclusão:** Apesar do potencial das ferramentas virtuais, os jogos analisados estão marcados por intensa simplificação a respeito do fenômeno do consumo de drogas e estimulam a rapidez de respostas pré-programadas, que não extrapolam a memorização e o condicionamento. Persiste a necessidade de atualização científica e incorporação de conteúdos educativos críticos na área.

DESCRITORES

Jogos Recreativos; Aplicativos Móveis; Usuários de Drogas; Redução do Dano; Educação em Saúde; Enfermagem em Saúde Pública.

RESUMEN

Objetivo: Contenido acerca de drogas en juegos para dispositivos móviles. **Método:** Estudio exploratorio de abordaje cualitativo. Se tomaron por referencia la crítica de la salud colectiva al ideario de la educación prohibicionista y los fundamentos de la educación emancipadora en el área de las drogas. Mediante criterios de inclusión y exclusión, se seleccionaron juegos sobre drogas en tienda virtual. Se procedió al análisis de contenido, con apoyo de modelo interpretativo específico para juegos digitales utilizado para identificar los mensajes textuales y de procedimiento en los juegos. **Resultados:** Diecinueve juegos fueron analizados. La mayoría de ellos reitera planteamientos prohibicionistas y cumple el papel de transmitir informaciones prescritivas y normativas, asumiendo el objetivo de disciplinar comportamientos de riesgo. Esa evidente limitación demuestra una importante contradicción, la de que los juegos son estrategias de lenguaje contemporáneo, con contenidos desactualizados y poco científicos. **Conclusión:** Pese al potencial de las herramientas virtuales, los juegos analizados están marcados por intensa simplificación con respecto al fenómeno del consumo de drogas y estimulan la rapidez de respuestas pre programadas, que no extrapolan la memorización y el condicionamiento. Persiste la necesidad de actualización científica e incorporación de contenidos educativos críticos en el área.

DESCRIPTORES

Juegos Recreacionales; Aplicaciones Móviles; Consumidores de Drogas; Reducción del Dano; Educación en Salud; Enfermería de Salud Pública.

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