

# Sexism and Digital Games, a Brazilian University Exploratory Research

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## ABSTRACT

Sexism is a type of negative discrimination that affects social sustainability and permeates society. It is present in computer information systems, including digital games. Considering the applied social character of this behavior, an exploratory research was carried out with the students of a Brazilian public university to find out if sexism is only a perception or if it really exists in their lives. One of the world's most played and disseminated online digital game was largely cited in the qualitative results. It is concluded that sexism negatively segregates, in greater numbers, women.

## Keywords

Sexism; digital games; ethics; social sustainability.

## ACM Classification Keywords

K.4 [COMPUTERS AND SOCIETY]: General – Ethics.

## INTRODUCTION

Digital games are software applications used by people for various purposes, including entertainment [1]. An ethical aspect in information systems is the commitment to the social dimension of sustainable development, such as respect for human rights [2]. Social sustainability is based on the maintenance of the human interactions, digital or not, with respect to people rights, humanity and dignity, with equity and respect, to satisfy next generations [3].

One way of disrespecting or neglecting social sustainability is allowing negative aspects in information systems. This action directly or indirectly influences the social attributes of related people. A direct example: Lulu application, where women shared information (e.g. labels, tags, private data and opinions) about men, often without respect for their dignity or privacy [4]. Indirect examples are: the use of the social network Facebook impacts negatively on the well-being of the people [5] and the act of playing games with high sexual content stimulates the man to the acceptance of sexual abuse [6]. In this context, the technical characteristics of a system are not differential, such as efficiency or effectiveness, but its impact related to the behavioral aspect of the people who use them, e.g. psychological, social, ethnic, personal, ideological etc., their effectiveness indeed. In the cases mentioned above, none of the systems were developed for those purposes. Negative social consequences of information systems do not always appear as violation of rights or property and are potentially harmful to individuals or society, even bringing

benefits may destroy cultural or societal values [7].

One interference in social dimension is sexism. Sexism is discrimination based on sex, currently coupled with a network of cultural beliefs and rooted in social and institutional practices [8]. This paper investigates answers about certain questions like it: is there occurrence of sexism in digital games, suffered or observed, by Brazilian university students? If so, is there a solution? How to solve? Where can it be observed? The answers and analysis about these questions are the contribution of this work.

A research was carried out with students of the Bachelor's degree in Information Systems (BIS) of the Federal University of the State of Rio de Janeiro (UNIRIO). This research wanted to know, objectively: (i) if they suffered from sexism in digital games; (ii) if they have already observed it directly, or; (iii) observed sexism between people of the same sex, and (iv) if they de facto believe in sexism. Subjectively and optionally they were asked to: (i) tell about some case of sexism that they could have suffered or seen directly; (ii) if they believe in a solution for it, and; (iii) the research was concluded with a question about sexism in a broader scenario, not only in digital games. Quantitative analyzes were performed. The paper continues presenting the concepts on sexism and ethics in software development; Details of the methodology used; Analysis of the results of the research and conclusion.

## MAIN CONCEPTS

In this section definitions will be introduced to contextualize the work proposal.

### Sexism and sexism in digital games

Sexism is defined as: “1. prejudice or discrimination based on sex; especially: discrimination against women. 2. behavior, conditions, or attitudes that foster stereotypes of social roles based on sex.” [9]. Studies that affirm differences between men and women in the use of computational devices neglect several indicators, using subjectively concordant variables, to try to demonstrate this data, leaving aside historical, cultural, social and environmental processes [10].

In digital games, regardless of platform (i.e., video game, mobile device, computer, etc.), some facts are observed and linked to discrimination and overrepresentation of a given sex and gender or graphical representation incompatible with reality. Women, specially,

suffer from underrepresentation; are presented as attractive beings or sex objects; displayed with revealing clothing or at least partially nude; are depicted thinner and “voluptuous” [8]. The underrepresentation of women in games culminates in a tendency to distance themselves from them, and from the interest in their development [11].

Influenced by these facts, women might develop behaviors as dissatisfaction with one's own body, among them; food disorders; self-objectification [8]; less confidence in achieving success outside the virtual world and questioning their own physical abilities, compared to a man [12]. The foundation is given by two theories, social cognitive theory and cultivation theory.

Social cognitive theory [13]: people are exposed to models that teach them about the symbolic representation of the world, making them believe that those signs, or their absence, is the pattern to be followed. Cultivation theory [14]: the understanding and perception of social reality is influenced by the repeated exposure of media, so the socially accepted is what the media constructs repeatedly exposes to us, or, otherwise, do not expose. Women can develop a "non-belonging" thought to that universe, by insisting on accessing it. Exposed with an unreal or no self-representation, motivating it to develop mechanisms to adapt to this domain.

**Ethics in software development**

Ethics are defined as: “the discipline dealing with what is good and bad and with moral duty and obligation” [15]. Companies that adopt ethical attitudes achieve sustainable success and longevity [16], positions directly related to services and products made available to the community.

In the code of ethics that governs all those associated in Association Computer Machinery (ACM), the first item already determines that the design and implementation of systems should seek to ensure that the products generated will be used in socially responsible environments, aligned with social needs and avoiding harmful effects on health and well-being. [17]. The Computer Ethics Institute (CEI) code of ethics lists ten commandments of computational ethics, modeled on the ten biblical commandments. The ninth and tenth items contemplate the scope of this work: "9. Think about the social consequences of the program you are developing or the system you are designing; 10. You will always use a computer to ensure respect and respect for fellow human beings." [18].

**METHODOLOGY**

For the data collection, an online questionnaire was used [19], the *Google Forms* tool. The UNIRIO BIS students were reached from the institutional e-mail defined to message all those regularly enrolled and duly registered. There was no distinction by sex or gender, i.e., men and women responded; nor interaction with respondents during filling, without skewing or conducting their responses.

The responses were stored in a database, in table format; a data processing was conducted (e.g., "1" edited for "first" in the term) and all valid responses (i.e., which could be minimally treated and validated) were used for numerical and statistical analysis, generating conclusions. The database, with no data processing and with valid answers only, was made available online [20]. Identity of the respondents, even requested in the data collection, was excluded from the database available, preserving the privacy and identity of them. The name was required for quantitative control, to express all the sample group, carefully selected.

**Selection of the sample group and initial results**

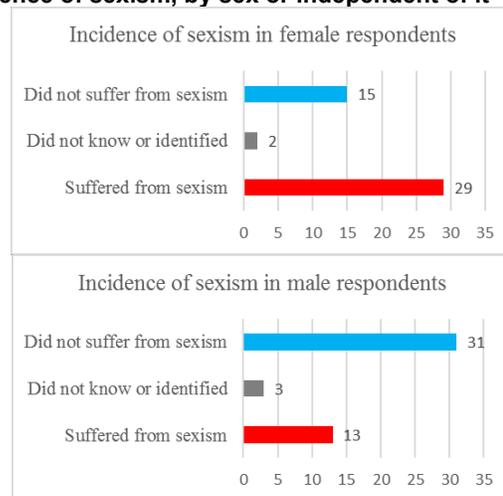
BIS students were selected as sample group because they receive ethics and technical instruction; for that, can identify and analyze better the sexism cases; supposedly have, for most part, some experience in digital games. As sexism has a greater impact on women, the search for their participation had more effort. Forty-six women and forty-seven men answered, summing a total of ninety-three respondents. For the desired analysis and conclusions only UNIRIO BIS students was taken in count.

The conclusions of the study are valid for the sample set of all female students of the UNIRIO BIS regularly enrolled until the period of 2017.1 who participated in the initiative (only three BIS female students in regular situation doesn't answered) and the male students, but not all, who spontaneously participated.

**ANALYSIS OF RESULTS**

Seven questions, other than those for identification purposes, were presented: **four objectives of either “yes”, or “no” or “I cannot know or identify”** answer options; three subjective, discursive ones. They will be identified in the rest of this paper by their number.

**Incidence of sexism, by sex or independent of it**



**Figure 1: Incidence of sexism, by the sex of the respondents**  
Question 6 sought to know whether respondents have



analysis of the answers was subjective. Initially, the content of the responses was analyzed if the respondents had positive, neutral or negative expectations about the end of sexism in digital games. Subsequently, many solutions were proposed, dividing them into three categories: education, punishment and inclusion, aggregating the answers by semantic similarity with these topics. A respondent may suggest more than one solution. Regarding the twenty-four responses of men: Seventeen positively believe that can be solved; Two, neutral and five negatives. Education category was listed in twelve responses; Punishment, eight; Inclusion in six. Regarding the twenty-seven responses of women: Sixteen positively believe that can be solved; Seven, neutral and four negatives. Education category was listed in fifteen responses; Punishment, four; Inclusion, Thirteen.

We note that both sexes believe in education, and related approaches, as a possible solution to sexism. More men than women believe that punishment would solve sexism. And, relevantly, women believe in inclusion as a solution. Regarding the feasibility of solving or not, women appeared more realistic than men, with more neutrality and more amenity in the answers, probably because they were most affected by this social setback.

### CONCLUSION

Negative social aspects are present in several digital games, impacting on social sustainability. The existence of sexism is believed and women suffer more from it than men. In general, they are positive about the solution of sexism, mainly through educational initiatives, or similar. Women are the most affected, so in many cases they renounce their dignity and rights, eg omitting their identity, lying about their sex, giving up playing with digital games. As noted in Figure 3, a specific game was cited many times by the respondents: League of Legends (LoL).

As a limitation, this work has an interpretative character and several analyzes, evaluations and subjective conclusions are linked to cultural and behavioral elements of the scenario, cannot be universally generalized.

Proposals of future works: further analysis of the database, using advanced covariance and multiple correlations; a research about League of Legends to discover if it is a sexist game; a comparative study involving many digital games of the same type.

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