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#### Women's Studies International Forum

journal homepage: www.elsevier.com/locate/wsif



## Mutable technology, immutable gender: Qualifying the "co-construction of gender and technology" approach



Adriana Gil-Juáreza, Joel Feliub, Anna Vitoresb, Anna Vitoresb, 1

- <sup>a</sup> Departament de Psicologia, Universitat Rovira i Virgili, Campus Sescelades, Edifici WO, 43007 Tarragona, Catalonia, Spain
- b Departament de Psicologia Social, Universitat Autònoma de Barcelona, Campus UAB, Edifici B, 08193 Cerdanyola del Vallès, Catalonia, Spain

#### ARTICLE INFO

# Keywords: Gender Technology Co-construction Performativity Gender trouble Interpretative flexibility

#### ABSTRACT

In highly technical societies, gender is largely produced in relation to technology. In this article, we explore the effects on the construction of gender and technology when groups of parents discuss technological activities. To do so, we report the results of a research project conducted in Barcelona, in which fathers and mothers, after playing video games with their sons and daughters, expressed their opinions about that activity, the relations their sons and daughters have with video games, and their own relationship with technology. The results support the idea that gender and technology are discursively and practically in permanent co-construction and have a relatively firm relationship that guarantees stability to both. However, we find that when people are confronted with facts that contradict the dominant perception that women are technologically unskilled or uninterested, it is only technology and not gender that is flexibly interpreted.

#### Introduction

In the fifth episode of the third season of The Big Bang Theory, in searching for topics of conversation, the aerospace engineer Howard Wolowitz asks Bernadette Rostenkowski, his new friend who is finishing a doctorate in microbiology: "And computers? Do you like computers?" to which she responds: "I use them, but I don't like them" (Lorre, Prady, & Cendrowski, 2009). For some women, computers are something tedious to which they can only show their indifference (Anderson, Lankshear, Timms, & Courtney, 2008; Kelan, 2007; Rommes, Overbeek, Scholte, Engels, & De Kemp, 2007). Nonetheless, Laia, a participant in our research, maintains that computing jobs are not technical jobs but creative. These are jobs where, in her own words, "you use language to create something". Laia was a unique participant; she appeared to be the only woman in a technological company with 120 employees. However, instead of seeing herself as less feminine, she has opted to redefine computing itself to make it a profession involving a stereotypical 'feminine quality': language. In this move technology — but not gender — is flexibly interpreted.

Within the field of psychology, which is the authors' field, the problematic relationship between gender and technology has scarcely been attended to (for recent exceptions on digital family or social networking sites, see Gordo Lopez, Contreras, & Cassidy, 2015; Dobson, 2014a, 2014b). However, in recent decades, an entire field has emerged

with an abundant output highlighting the socially constructed nature of technology and its relation to the construction of gendered subjectivities. Perspectives such as that of social studies of technology (Bijker & Law, 1992; Pinch & Bijker, 1984), by describing the role and meaning of technologies in our societies, encourage us to abandon the idea that these are neutral constructs that determine our lives with straight effects. The social construction of technologies refers to a complex assemblage of social relations and processes, which include gender, that not only affect their design, development and implementation, but that make up their meaning, usability and efficiency. As some authors have indicated (Oudshoorn & Pinch, 2003; Pinch & Bijker, 1984, 1986), technology may be interpretatively flexible: as users also play a part in defining technology, different groups may endow it with completely different meanings. For instance, Cockburn and Ormrod (1993) showed how the microwave was shaped in a gendered way, as different gender roles were projected onto it before, during and after its design (cited in Lagesen, 2012). From a constructivist view, technology is created in social relationships, carrying social meanings and expressing social norms, and so too is gender. Therefore, it is not only the machines that get gendered, but also and especially their users. As Lagesen argues 'The most prominent theoretical approach in feminist studies of technology has been the idea that gender and technology are co-constructed' (Lagesen, 2012, p.443). As Landstrom put it "gender [should not be thought of] as an identity trait

<sup>\*</sup> Corresponding author.

E-mail addresses: adriana.gil@urv.cat (A. Gil-Juárez), joel.feliu@uab.cat (J. Feliu).

<sup>&</sup>lt;sup>1</sup> Present address: Independent Researcher.

that comes from within the individual and determines their relationships with others, but as something emerging in the processes in which people and technology are enmeshed." (2007, p. 10). However, 'gender is generally treated as a stable, pre-given category that shapes the technology under scrutiny. It is black-boxed, "the content and behaviour of gender relations is assumed to be common knowledge, and their meanings are stabilized and no longer need to be considered" (Ormrod, 1994: 32)' (Lagesen, 2012, p. 444). It would appear, then, to be fruitful to look at how gender itself is constructed around specific technological settings.

As Judith Butler (1988, 1990) stated, gender is a performative effect made up of certain ways of doing and saying that persist. Furthermore, it is a contingent effect that must be iterated in order to survive. As Pujal and Amigot detailed, identification practices, which imply specific performances, are not only gestures, postures and appearances, but they also entail the intervention of language and discourses about the self: 'This is what [Butler] calls repeated linguistic interpellation which produces a self-recognition and a self-difference in the subject in terms of identification-disidentification' (2010, p. 143). These performative effects are produced within a 'heterosexual matrix'-a linguistically constructed worldview that reproduces itself by claiming gendered subjects as already having an implied desire for each other (Butler, 1990), a 'grid of cultural intelligibility through which bodies, genders, and desires are naturalized' (Butler, 1990: 194). Performativity 'is linked not only to the formation of the subject but also to the production of the matter of bodies' (Barad, 2003, cited in Morison & Macleod, 2013). Thus, it can be argued that, as language is always language in a context, we should explore how it works to position participants in relation to technological discourses and with what effects in scenarios where identity claims are made around the use of technology.

One interesting specific scenario may be video gaming practices, as it is a familiar technological space where gendered practices around technology can be easily observed and discussed by its participants. The use of video games is extremely differentiated between boys and girls, both in terms of time dedicated to them and appreciation for them (Gil-Juárez, Feliu, & Vitores, 2010; Greenberg, Sherry, Lachlan, Lucas, & Holmstrom, 2010; Winn & Heeter, 2009). Unfortunately, as Hayes (2008) discussed, the appreciation and command of video games is an important factor in encouraging interest in information technology expertise. The gender divide in the use of video games has been related on several occasions to a decrease in opportunities for women (Gil-Juárez, Vitores, Feliu, & Vall-llovera, 2011; Hayes, 2008; Jenson & de Castell, 2005). However, approaching the subject as differences between boys and girls in the use of a particular machine, takes two givens as an explanation: technology and gender. This means that some characteristics of video games would then clash with some essential characteristics of women and vice versa. A considerable problem in tackling the digital divide in this way is that it assumes as a starting point that gender and technology have fixed qualities independent of the very situations in which actors are involved and independent of the meanings that actors give to these situations — that is, outside the particular relationships between users and technologies, and outside the accounts that users give of their own use, and that of people around them. In this article, we aim to show how both technology and gender meanings are not givens, but rather, they are negotiated in the course of discussions around its users (Faulkner, 2001; Wajcman, 2010). To do so we analysed the accounts of a group of fathers and mothers on the uses of and interests in video games by their daughters and sons, as well as their own relationship with these games and with new technologies.

The main goal of the research we undertook was to analyse the discourses that construct gender and technology when people discuss video gaming in order to describe how both become obvious and unquestionable. We did find that reification happened, however not in a symmetrical way, since when common understandings of gender and technology conflicted during the discussion, technology's meaning became more flexible, thus guaranteeing that gender remained unchanged

and could continue to appear essential and static.

#### Method: video gaming and talking about it

Parents gender their children, as Kane found in her research: "[For sons], most parents made efforts to accomplish, and either endorsed or felt accountable to, an ideal of masculinity" (Kane, 2006, p. 173). To be able to analyse how gender and technology are created and stabilised in parents' talk, and to provide a relevant context for discourse on gender and technology to emerge meaningfully - i.e. not in abstract talk but in talk about specific practices around technology - we organised 6 video game workshops for mothers and fathers, their sons and daughters in Barcelona, Catalonia, Spain. The workshops took place between April and November 2010. They were planned and developed with the collaboration of a company specialising in the design and implementation of educational and leisure projects: MARINVA. The workshops were one hour long, during which mothers and fathers with their sons and daughters could simultaneously play four games for 15 min each. Games were selected following the criteria that they should be diverse in their gendered common associations and in the ways they were to be played<sup>2</sup>.

These workshops took place in different schools and community centres in the city providing us with a diverse sample from different economic, cultural and educational backgrounds. The distribution of Barcelona inhabitants is correlated with household income distribution (Barcelona City Council, 2012). The workshops and the discussion groups, ordered from the lowest to the highest household income were located in: La Teixonera, Horta, Sant Antoni, Sagrada Família and Sant Gervasi<sup>3</sup>.

In total, 37 mothers and fathers with a son or a daughter aged between 8 and 14 years of age attended the workshops answering a call for volunteers in a study of video games. The call was made through the usual local practices of each school or community centre, normally a flyer given by the staff to the children or a notice posted on the news board. After an introduction in which we explained that volunteers would participate in research on the use of video games, we explained the consent form given to them and asked them to fill it out. We provided information on: (a) research; (b) contact details for the research team; (c) how the data would be used (conditions and guarantees for storage, archiving, exchange and safe use of data); and (d) commitment to ethical management of these (confidentiality and anonymity).

During the time they played, we made observations and took field notes for every couple (mother/father with his/her daughter/son) participating in each workshop and for each of the games. Their time playing the game was videotaped too. Although we acknowledge that these observations possibly oriented our current analysis, these data are not the subject of this article and are not explicitly handled here.

When they finished playing, the adults and children were separated into two discrete discussion groups (6 children groups and 6 adult

- That their recommended ages were between 8 and 14 years
- That 2 players could play them simultaneously (a mother or father and daughter or son)
- That they could be played in 10-15 min
- That they implied a variety of accessories
- · That both games of competition and cooperation were included.
- 4 games were selected according to these criteria:
- 1 PC game of simulation and cooperation (Spore. Creature creator)
- 1 Console game created to play in a cooperative group or family (Super Mario Galaxy for Nintendo Wii)
- 1 Console game with traditional gamepads for sports competition (Shaun White Snowboarding PlayStation)
- 1 Console game with an alternative accessory like dance pad (Dance Factory for PlayStation).

<sup>&</sup>lt;sup>2</sup> The selection criteria for the games were:

<sup>&</sup>lt;sup>3</sup> Assuming a figure of 100 for Barcelona global household income index: La Teixonera has 71.3, Horta 80, Sant Antoni 94.8, Sagrada Família 95.3 and Sant Gervasi 187.9 (Barcelona City Council, 2012).

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