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# Addressing the Gender Gap in IT via Women's Preferences in Video Games

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# INTRODUCTION

We feel that it is essential to ask: Why study video games as a form of information technology? Are video games not a mindless and childish form of entertainment without any serious consequences requiring scholarly examination? We believe the answer to that question is a resounding "no". We propose that video games are one of the first samples of IT with which children come into contact and can have a profound effect on their acceptance of technology overall. It can be argued that the sooner children come into contact with and accept technology, the more likely they will be to sustain such activity into adulthood.

Interesting cultural aspects related to video games are arising as this form of IT generates interest in research communities, especially when examining the social dynamics of video game players (e.g., real time strategy (RTS) gosus, arcade junkies) and video gaming communities (e.g., role-playing game (RPG) clans, first-person shooter (FPS) sects). Similarly, the recent influx of games with mature content has increased the number of older video game players (Snider, 2002). Moreover, there are observable emotional and psychological effects that video game players experience. For example, some reports suggest that video games with violent themes can desensitize individuals (Violent Video Games, 2000).

Video games have become so popular and pervasive that they are transforming the modern world, and these effects are measurable at the individual, organizational, societal, and even global levels. The sheer economic impact alone of video games cannot be ignored; a recent article reports that the video gaming industry generated \$9.9 billion in revenue for 2004 (Richtel, 2005). Finally, video games can be considered a "gateway to computer literacy" for children (DeBare, 1996). This also implies that video games have more of a role in a child's lifestyle than simply mindless entertainment.

Studying video games as they relate to gender and IT is thus a worthwhile endeavor with non-trivial ramifications. Specifically, studying how playing video games relates to gender differences in the IT work profession may provide interesting results because such an inquiry would identify a possible contributor to the gender gap noticed in the IT workforce today. Males have traditionally possessed a strong desire to interact with technology, which we posit is partly driven by increased exposure to video games. Males therefore appropriate artifacts of technology (e.g., computers, wireless, handheld devices, etc.) more readily than their female counterparts. Contrarily, females are being alienated from technology, which we believe is a causal result from their lack of positive video game experiences.

How video games affect the gender gap in IT could be explained in the following manner. The IT profession is considered a male-dominated and maleoriented field. If we include game developers as part of the IT profession, we find little exception to this dominance. Video games are thus designed from the minds of male game developers; Saltzmann (2001) reports that 99% of all game developers are men.

Video games conventionally have had a stronger appeal to males than females. Less than 30% of all video game players are female and the number of

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"serious" female game players is considerably lower (DeBare, 1996). For example, only 5% of GamePro magazine readers are female and only 8% of the buyers who returned product registration cards to Electronic Arts, a leading game design company, are female (DeBare, 1996). As a result, the majority of video games contain an emphasis on overtly maleoriented themes such as gratuitous sex and violence, extreme action, science-fiction themes, mythical fantasies, and sports. Due to this overly maleoriented content of video games, young males are naturally drawn to them. Therefore, we posit that young males have a "fun" or positive interaction with technology, while young females do not. Young males thus have an initial attraction to technology that is driven by video games, and consequently may have a strong desire to seek professions where technology is central to the work (e.g., programming, animation). Conversely, young females who lack this "fun" interaction with technology may miss the attraction, thus resulting in a lack of interest in pursuing a career where technology is essential.

Thus, we propose a research agenda that examines female interest in video games as a method to address the gender gap in the IT profession. We speculate that investigations into the gaming habits and gaming preferences of females can not only provide an understanding of women's interests in video games, but also lead to characteristics that can be emphasized to increase female interest in technology.

# BACKGROUND

Much of the literature concerning gender-related video game preferences focuses on negative appraisals of the depiction of women by the gaming industry and its predominantly male design and programming staffs. Research has found that preand post-adolescent females are displeased with many of the features in video games. This is most clearly evident in research where avatars, the electronic representation of a player in a video game, are critically examined. Avatars can be graphically represented on a video screen, or consist of sets of textual descriptions including vital statistics such as height, weight, and age. Lois Salisbury, president of Children Now, is quoted in a CNN.com feature (2000, para. 13) as saying, "there is an interactivity, there is an absorption, and the children who are playing are actually assuming different characters [avatars]. That does a lot for identity formation."

Many female interviewees reported that they find much of the content in video games sexist and degrading due a continual display of female avatars as enhanced sexual objects (Cassel & Jenkins, 1998; Saltzmann, 2001; Swanson, 1995; Wilcox, 1996). In a study commissioned by Children Now, the child advocacy group found that in the top ten best selling games for three popular game console systems, female characters were displayed in an "exaggerated and stereotypical manner" (CNN, 2000). Children Now also found that 38% of female avatars were depicted with considerable body exposure (CNN, 2000). Girls tend to not only disdain the prototypical large breasts coupled with an impossibly small waist of female avatars, but also the use of high-pitched giggles, sighs, and whimpers in voiceacting (Cassel & Jenkins, 1998; CNN, 2000).

Body image, while a prevalent topic in today's gaming market, is not the only feature alienating female gamers. One of the more established stereo-types of female characters viewed negatively by female respondents is the "damsel-in-distress" character, such as the tried-and-true "trapped princess formula" used in games such as *Super Mario Brothers* or *Prince of Persia* (Kiefaber, 1998; Saltzmann, 2001). Likewise, in instances where male characters are in need of rescuing, women rarely save them (QuickFacts, n.d.).

Female interviewees cite violence as another detractor in video games. Violent games, such as *Mortal Kombat* or *Quake*, are shunned by females for several reasons, including lack of intellectual stimulation (Wilcox, 1996), repetitive structure of violent behavior (Wilcox, 1996), and aversions to blood and gore (DeBare, 1996). The results of a survey administered to 137 high-school teens by the National Institute on Media and the Family and the University of Oklahoma show that the average teen enjoys a "moderate amount of violence" in video games, "roughly 5 on a scale of 1 to 10" (QuickFacts, n.d.). Unfortunately, this statistic is skewed since it incorporates young males' perspectives as well as their female classmates. When limited to male re-

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