

game design classroom what men want  
workforce social context IT Careers

tweens casual games gender stereotypes  
preschool console games brain research  
competition learning spatial ability educational games  
computers storytelling

# investiGaming

*Research Findings  
on Gender and Games*

avatars gender identity elementary school  
masculine violence boys high school  
modding feminine grade school hypersexualized  
gender equity MMO middle school aggression  
gaming culture player demographics  
sexuality children motivations narrative  
ethnicity girl games arcade  
psychology game industry cooperation  
pink games feminism self-esteem research  
what women want player types gender theories

# Preface

*This book was created to live in  
game design conference rooms,  
game design classrooms,  
game industry professionals’  
and gaming researchers’  
bookshelves.*

Selected highlights from the **investiGaming.com** gateway to research on gender and gaming can be perused for inspiration. They point to the more complete online citations and abstracts in our ever expanding online resource.

This print publication and the online **investiGaming.com** gateway were partially supported by grant 0631771 from the National Science Foundation to Professor Carrie Heeter and Associate Professor Brian Winn in the Games for Entertainment and Learning (GEL) Lab, Department of Telecommunication, Information Studies, and Media, at Michigan State University.

The opinions expressed are those of the authors and do not represent Michigan State University or the National Science Foundation.

## About investiGaming

### Credits and contact information

### Tag Cloud Highlights

Avatars .....	7
Children .....	13
Classroom Context .....	18
Game Design.....	24
Game Industry .....	31
Gaming Culture .....	37
Gaming Social Context.....	41
Gender Equity.....	47
Gender Identity .....	52
Gender Inclusive.....	57
Gender Stereotypes .....	62
Gender Theories .....	71
Genre (MMO).....	74
Genre Educational Games .....	78
IT Careers.....	83
Learning Outcome.....	89
Motivations.....	93
Player Demographics .....	99
Sexuality.....	104
Violence.....	111
What Women Want .....	116
Workforce.....	125

# About this book

Designing games to appeal to female and male players may seem elusive, but gender and gaming has been and continues to be the focus of hundreds of research studies.

*investiGaming.com* is an online gateway to academic and industry research on gender and gaming. The gateway was created by Michigan State University Professor Carrie Heeter and a team of Serious Game Design faculty, students, and consultants with funding from the National Science Foundation. As of July, 2009, the *investiGaming.com* gateway includes 410 research citations, 319 abstracts, and 271 full text links.

The online gateway can be searched, browsed by topic using a tag cloud interface to find research on particular subjects, or the complete citation list viewed in its entirety.

This book reprints selected *investiGaming.com* content associated with 26 of the most frequently occurring subject tags. The three most frequent tags are **What Women Want**, **Gender Stereotypes** and **Game Design**, each with 32 research citations related to gender and gaming sharing that tag.

Some popular tags relate to who plays games, how, and why, including **Player Demographics** (17), **Player Motivations** (23), **Gaming Culture** (16), and **Gaming in Social Contexts** (29).

Women in the gaming industry and approaches to attract girls to IT careers are a frequent focus of research found in the **Game Industry** (22), **Workforce** (20), and **IT Careers** (24) tags.

Gender and gaming as it relates to **Avatars** (26), **Sexuality** (23), **MMOs** (14), and **Violence** (18) are frequent foci of media and research attention.

Research about gender, **children and gaming** (17) is presented overall and subdivided by age into **Preschool** (5), **Elementary School** (6), **Middle School** (14), and **High School** (11). Some research has looked at gender and **Educational Games** (16), **Gaming in Classroom Context** (15), and **Learning Outcomes** (15).

**Gender Inclusive Games** (16) and **Gender Equity** (20) are frequent tags, as are **Gender Identity** (17) and **Gender Theories** (9).

Each tag forms a chapter, beginning with a “scope definition” for unfamiliar terms, followed by research highlights related to gender and gaming pulled by *investiGaming* student researchers from the abstracts and articles of *investiGaming.com* entries which share this tag. Research highlights are followed by the complete list of citations associated with the tag.

Readers are encouraged to visit *investiGaming.com* online to retrieve the abstract and additional information about particular studies of interest.

This is not a literature review. Research highlights related to gender and gaming were pulled from the abstract or full text of each research citation and then organized by subtopics.

Different highlights may contradict each other, because they came from different articles and because the authors had contradictory perspectives. We do not synthesize or integrate, but simply list what appear to be highlights of interest related to gender and gaming.

## The Collection Casts a Wide Net

- Academic Research
- Industry Research
- Gender and Gaming
- Gender and Computing
- Other Gender Research with Implications for Gaming

## A Gateway for Game Industry Professionals

- Quick Search hundreds of abstracts
- Browsable Tag Cloud
- Research highlights

## A Resource for Academic Games Research

- Extensive bibliography
- Hundreds of abstracts
- Links to retrieve full articles

## A Resource for Game Design Students

- Use the gateway during project brainstorming
- Independent study or special topics courses to critically interpret research implications for game design

## What Are We Missing?

- Please email Carrie ([heeter@msu.edu](mailto:heeter@msu.edu)) to request that we add your current and future work!

# Credits

## Project Leader and Senior Editor

### Professor Carrie Heeter

*Department of Telecommunication,  
Information Studies, and Media  
Michigan State University  
heeter@msu.edu  
<http://seriousgames.msu.edu> | <http://gel.msu.edu/carrie/>*

## Co-Editor

### Brian Winn

*Associate Professor and GEL Lab Director  
Department of Telecommunication,  
Information Studies, and Media  
Michigan State University  
winnb@msu.edu  
<http://seriousgames.msu.edu> | <http://gel.msu.edu/winn/>*

## LULU Press Book Design

### Darcy Drew Greene

*Associate Professor School of Journalism  
Michigan State University  
greened@msu.edu  
<http://commtechlab.msu.edu/principals/darcy.html>*

## Editors and Graduate Research Assistants

### Rosalie Blank

*MSU Serious Game Design MA Student (current)  
RosalieClaire@gmail.com*

### Mary Stanish

*MSU Serious Game Design MA Student (graduated)  
modestystudio@gmail.com  
<http://www.sass-studio.com/>*

### Jillian Winn

*Digital Media Arts and Technology MA Student (graduated)  
jillian@msu.edu*

## Consultants

### Ruta Sevo

*Independent consultant and writer,  
ruta@momox.org  
<http://momox.org>*

### Solveig Zarubin

*Producer, Playfirst  
solveigp@gmail.com  
<http://sunpathgames.blogspot.com/> | <http://www.playfirst.com/>*

### Yasmin Kafai

*Professor, Graduate School of Education,  
University of Pennsylvania  
kafai@gse.upenn.edu  
<http://www.gse.upenn.edu/faculty/kafai>*

### Andy Detskas

*Lead Online Designer  
andydetskas@gmail.com  
<http://www.andyandyandy.com/>*

## Student Editors

### Jessica Knott

*Education & Serious Game Design MA Student  
jlknot@msu.edu  
<http://vudat.msu.edu/e producers/>*

### Kacie Schaeffer

*Serious Game Design MA Student  
maresomniorum@gmail.com*

### Jason Giroux

*Game Design and Development Specialization  
jgiroux86@gmail.com  
<http://darguth.alaerth.net/GamePortfolio>*

### Brad Haggadone

*Game Design and Development Specialization  
haggado5@msu.edu*

## Avatars (26)

Selected highlights from the AVATARS tag  
*(Each highlight is associated with one or more entries in the investiGaming collection. The authors' last name and year of publication is referenced after the highlight. Complete citations for all 26 investiGaming.com entries directly related to AVATARS appear at the end of highlights.)*

### Number of female game characters

- In the top selling video games of 2001, female characters accounted for only 16% of all characters. (Glaubke, 2001)
- Among 489 characters in 60 of the top-selling video games, there were far fewer female characters (70) than male (419) (Downs, 2005)
- Video game players had more opportunities to select playing a non-human character such as a robot or anthropomorphized being such as a hedgehog (i.e., Sonic the Hedgehog) than female a character. (Downs, 2005)
- 41% of all female characters were shown wearing sexually revealing clothing compared to 11% of males. Further, 28% of all females, compared to 2% of all males, were depicted with inappropriate clothing for the task at hand, ostensibly to help accent the feminine form. One fourth of the female characters were shown with an unrealistic body image. Female characters were ten times more likely to be shown nude (partial or full) than male characters (43% of females vs. 4% of males). (Downs, 2005)
- Active male characters were mentioned in 75% of the reviews, versus 33% active female characters. 65% of the reviews mentioned male playable characters; 22% mentioned female playable characters. 41% of female representations pictured were sexually suggestive compared to 4% of male representations. (Ivory, 2006; Miller, 2007, Mou, 2009)
- A disproportionate number of genres have only a male choice for the lead character. Social and Economic Sims are the only genre that had a larger proportion of female leads (14%). Other genres only had 0%-3% of female only leads. (Divnich, 2008)

### Gender stereotyped avatar designs

- Female characters were more likely to play the role of a "prop" or "bystander". (Glaubke, 2001)
- Female game characters are routinely represented in a narrowly stereotypical manner; for example, as princesses or wise old women in fantasy games, as objects waiting on male rescue, or as fetishised subjects of male gaze in first person shooters. (Bryce, 2002)
- Jill (Resident Evil) was thus easily placed in situations that reinforced the stereotype that women are subject to men. She was regularly rescued by male companions, in addition to being the only character subjected to physical abuse at the hands of her teammates. The heroine thus portrayed the additional – and highly stereotypical – roles of damsel in distress and battered woman. (Grimes, 2003)
- In terms of visual representation, all three protagonists looked remarkably alike. Samus, Jill and Alex were each depicted as conforming to the beauty ideals that pervade Western mass media. (Grimes, 2003)
- Game designers working on a male character aimed to represent "the average guy" based on photographs, anatomically correct in proportion. When designing a female character they did not use photos as they do in designing male characters, because photos were not "sexy" enough; they used CG images from the internet and the female character was not anatomically correct. (John, 2006)

### Female avatar preferences

- Females prefer to play female playable characters. (Glaubke, 2001, Reinecke, 2007)
- Women are more likely to perceive a female protagonist as a role model if the character is also physically attractive. While a "physical attractive" heroine is more likely to be perceived as an effective role model, a "sexualized" heroine is instead perceived as a "sexual object". (Grimes, 2003)
- Participants strongly preferred to be represented by avatars that were both human and matched their own gender. (Nowak, 2005)
- Females and males preferred exaggerated sexual bodies for their personal avatar over normal bodies. (Larsson, 2005)

■ Both females and males avoided choosing avatars that “showed too much skin,” preferring a “fully dressed” avatar to a scantily clad one. (Larsson, 2005)

■ Avatars representing negative stereotypes of women were shunned and those representing positive stereotypes were preferred. (Larsson, 2005)

■ In the study, girl game designers (5th-8th grade) designed games that allowed for a high level of avatar customization while boy game designers either allowed for a selection of pre-made characters or none at all. (Heeter, 2008)

■ In general the girls in fifth and eighth graders designed space learning games spent more energy and time imagining how the player and NPCs would look than boys did. (Heeter, 2008)

■ The games girls invented were much more likely to include customizable player avatars than the games boys invented (Heeter, 2008).

### **Avatar perceptions**

■ When given an androgynous avatar most children will identify it as a male character, but girls are more willing to see them as female. (Bradshaw, 1995)

■ “Just as young girls may interpret highly sexualized characters as symbols of the “ideal woman,” so too may young boys. These impressions may influence girls’ feelings about themselves and their place in the world, and they may also influence boys’ expectations about and treatment of females.” (Glaubke, 2001; Downs, 2005)

■ Lara Croft’s presence within, and familiarity with, a particularly masculine space is in and of itself transgressive. By being there she disturbs the natural symbolism of masculine culture. (Kennedy, 2002)

■ Feminists have trouble deciding whether the game character Lara Croft is a positive role model for girls or a toy for boys. (Kennedy, 2002)

■ In many ways, Samus (Metroid Prime) was merely an empty vessel for the player to appropriate, acting as little more than a visual representation of the player’s actions within the game environment. (First person perspective). (Grimes, 2003)

■ People found anthropomorphic (human-like) avatars to be more attractive and credible, and were more likely to choose them. (Nowak, 2005)

■ When players encountered a female conversation agent/avatar, they were more likely to chat about her sexuality, rape, or other aggressive/violent acts against her while advances on male agents were significantly less violent and sexual. (De Angeli, 2006)

■ Given descriptions of different gaming situations, female players designed an avatar that best suits the game requirements (male, female, neutral) rather than one most like her. (Reinecke, 2007)

■ Overall, the results from this study suggest that when male participants played a video game that emphasized muscular male bodies, their own body image became more negative. (Barlett, 2008)

■ The results of the current study suggest that women participants, after playing a video game that emphasized the female body, felt significantly worse about their bodies. (Barlett, 2008)

■ Although female MMO players often report their female personas were subjected to sexual harassment, while male players playing female avatars reported being treated nicely by other male players playing male characters. (Hussain, 2008)

---

### **Barlett, Christopher P. and Richard J. Harris (2008)**

#### **The Impact of Body Emphasizing Video Games on Body Image Concerns in Men and Women**

*Sex Roles Volume 59, Numbers 7-8*

#### **Synopsis:**

A study measuring the relationship between playing video games with muscular characters and body attitude in male and female players.

#### **Keywords:**

academia, experiment, journal, psychology, gender identity, npcs, masculinity, femininity, avatars

**Full Text:** Yes | **Abstract:** Yes

---

**Bradshaw, J., Clegg, S., & Trayhurn D. (1995)****An investigation into gender bias in educational software used in English primary schools***Gender and Education*, 7(2), 167–175**Synopsis:**

A study of whether primary school boys and girls presented with a genderless or androgynous character will assign a gender.

**Keywords:**

journal, gender stereotypes, avatars, gender identity, gender inclusive,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Bryce Jo, Rutter Jason (2002)****Killing Like a Girl: Gendered Gaming and Girl Gamers' Visibility***DIGRA conference 2002***Synopsis:**

Examines the relationship between gaming and gender.

**Keywords:**

conference, gender stereotypes, violence, sexuality, avatars, game industry

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Corneliussen, H. and Mortensen, T. (2006)****The Non-sense of Women in Neverwinter Nights***Women in Games. Conference Proceedings 2006, University of Abertay Press. ISBN 189979618-5.***Synopsis:**

An analysis of the game Neverwinter Nights which was modified in order to appeal to women.

**Keywords:**

conference, editorial, Neverwinter Nights, avatars, sexuality, gender stereotypes

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**De Angeli, A. and Brahnam, S. (2006)****Sex Stereotypes and Conversational Agents***In Proc. of Gender and Interaction, Real and Virtual Women in a Male World Workshop***Synopsis:**

Discussion of conversational agents in computer environments and the way people interact with them.

**Keywords:**

conference, experiment, avatars, harassment, aggression, gender stereotypes

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Divnich, Jesse (2008)****The Divnich Tapes: Female Representation In Games Across Genres, Consoles***Gamasutra, October 22***Synopsis:**

An analysis of next gen consoles and genres that have female playable characters.

**Keywords:**

industry, media-press, report, avatars, genre

**Full Text:** Yes | **Abstract:** Yes

---

**Divnich, Jesse (2008)****The Divnich Tapes: Which Genres Provide Male-Only, Female-Only Protagonists?***Gamasutra, October 23***Synopsis:**

An analysis of game genres on next gen consoles that allow male only and female only protagonists.

**Keywords:**

industry, media-press, report, avatars, genre

**Full Text:** Yes | **Abstract:** Yes



---

**Downs, E. and Smith, S. (2005)**

**Keeping Abreast of Hypersexuality: A Video Game Character Content Analysis**

*Paper presented at: The 55th annual conference of the International Association of Communication*

**Synopsis:**

A content analysis of 60 top-selling video games, and 489 characters in them, for gender and hypersexuality.

**Keywords:**

conference, case study, sexuality, console games, psychology, NPCs, avatars

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Glaubke, Christina, Miller, Patti, Parker, McCrae & Espejo, Eileen (2001)**

**Fair Play? Violence, Gender and Race in Video Games**

*Children Now*

**Synopsis:**

The publication examines the top-selling video games for each of the seven different game systems.

**Keywords:**

survey, report, children, player demographics, violence, ethnicity, avatars, what women want

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Grimes Sara M. (2003)**

**You Shoot Like A Girl!: The Female Protagonist in Action-Adventure Video Games**

*DIGRA conference 2003*

**Keywords:**

conference, action games, rpg, avatars, sexuality, gender stereotypes, npcs

**Full Text:** Yes | **Abstract:** Yes

---

**Heeter, Carrie, Egidio, Rhonda, Mishra, Punya, Winn, Brian and Winn, Jillian (2009)**

**Alien Games: Do girls prefer games designed by girls?**

*Games and Culture, Vol. 4, No. 1, 74-100*

**Synopsis:**

A three year study , with a content analysis of games envisioned by 5th and 8th graders, followed by a survey of students in the same age range reacting to video promos representing these envisioned games.

**Keywords:**

academia, journal, game design, survey, experiment, children middle school, girls designing games, gender inclusive, violence, avatars, humor, npcs, storytelling, genre educational games, Halo

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Helen W. Kennedy (2002)**

**Lara Croft: Feminist Icon or Cyberbimbo?: On the Limits of Textual Analysis**

*Game Studies Volume 2, Issue 2*

**Synopsis:**

A reflection on what to think about Lara Croft as a games character and as a cultural icon if you are a feminist.

**Keywords:**

academia, journal, avatars, Tomb Raider, sexuality, feminism

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Hussain, Zaheer and Mark Griffiths (2008)**

**Gender Swapping and Socializing in Cyberspace: An Exploratory Study**

*CyberPsychology & Behavior. February 1, 2008, 11(1): 47-53. doi:10.1089/cpb.2007.0020.*

**Synopsis:**

An online survey of 119 people (83 males and 32 females), ages 18-69, mostly American (73%) about their behavior playing massively multiplayer online role-playing games (MMOs), especially regarding gender swapping.

**Keywords:**

survey, journal, MMO, psychology, sexuality, gender identity, avatars

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---



---

**Isbister, K. (2006)****Better game characters by design: Gender**

*Better Game Characters by Design, pp 107-133, San Francisco, CA: Morgan Kaufmann.*

**Keywords:**

book, chapter, avatars, psychology, NPCs

**Full Text:** Yes | **Abstract:** Yes

---

**Ivory, James (2006)****Still a Man's Game: Gender Representation in Online Reviews of Video Games**

*MASS COMMUNICATION & SOCIETY, 2006, 9(1), 103-114*

**Synopsis:**

A content analysis of 100 one-to-three-page reviews of popular games in Gamespot Review, looking at representations of characters and gender.

**Keywords:**

academia, journal, content analysis, sexuality, NPCs, avatars

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**John, Sara (2006)****Un/Realistically Embodied: The Gendered Conceptions of Realistic Game Design**

*Gender and Interaction: Real and Virtual Women in a male world*

**Synopsis:**

A team developing computer games was studied for insight into their decisions, especially concerning gender and the creation of avatars.

**Keywords:**

case study, conference, gender stereotypes, avatars, NPCs, game industry, sexuality, game design, England

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Krzywinksa, Tanya (2005)****Demon Girl Power: Regimes of Form and Force in Videogames Primal and Buffy the Vampire Slayer**

*Women in Games Conference & LSE Third Seminar Keywords: conference, avatars*

**Full Text:** Yes | **Abstract:** Yes

---

**Larsson, Anna and Nerén, Carina (2005)****Gender Aspects on Computer Game Avatars**

*SICS Technical Report T2005:06*

**Synopsis:**

A study of the characteristics of female avatars, stereotypes of women, and how men and women relate to hyper-sexualized avatars.

**Keywords:**

report, academia, sexuality, avatars, what women want, what men want, gender stereotypes

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Miller, M.K. and Summers, A. (2007)****Gender differences in video game characters' roles, appearances, and attire as portrayed in video game magazines**

*Sex Roles, v57, 733-742, 2007*

**Synopsis:**

A content analysis of 49 articles in video game magazines, coding 115 characters, to study gender roles.

**Keywords:**

journal, avatars, sexuality, gaming culture, fandom, gender stereotypes

**Full Text:** No | **Abstract:** Yes | **Highlights:** Yes

---

**Mitchell-Young, Brian (2005)****Gaming Mind, Gaming Bodies: Mind-Body Split For the New Millennium**

*DIGRA conference*

**Keywords:**

case study, conference, game genres, First Person shooter, avatars, psychology

**Full Text:** Yes | **Abstract:** Yes

---

**Mou, Yi; Peng, Wei (2009)****Gender and Racial Stereotypes in Popular Video Games***Handbook of Research on Effective Electronic Gaming in Education***Synopsis:**

A review of studies of gender and racial stereotypes in portrayals of characters in video games and a content analysis of 19 popular video games.

**Keywords:**

academia, book, chapter, gender stereotypes, psychology, NPCs, avatars, ethnicity

**Full Text:** No | **Abstract:** Yes

---

**Nowak, K. L., and Rauh, C. (2005)****The influence of the avatar on online perceptions of anthropomorphism, androgyny, credibility, homophily, and attraction***Journal of Computer-Mediated Communication, 11(1), article 8***Synopsis:**

A study of 255 people who were asked to evaluate avatars in terms of gender identities and attractiveness.

**Keywords:**

journal, academia, avatars, sexuality, masculinity, femininity

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Ray, Sheri Graner (2003)****Gender inclusive game design: Expanding the market***Hingham, MA: Charles River Media***Synopsis:**

Papers explore aspects of computer gaming, e.g. the differences in reward systems, game play preferences, and avatar selection criteria, and how these issues all apply to game design, looking at how games can be designed to appeal to women.

**Keywords:**

book, game design, gender inclusive, avatars, motivations, what women want

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Reinecke, Leonard and Trepte, Sabine (2007)****Creating Virtual Alter Egos? Psychological Processes Underlying the Choice of Avatar Features in Com***International Communication Association Conference, San Francisco***Synopsis:**

A study of how female players chose and designed avatars.

**Keywords:**

case study, report, gender identity, avatars, psychology

**Full Text:** No | **Abstract:** Yes | **Highlights:** Yes

---

**tiltfactor (2007)****Interviews with Game Designers: Elizabeth Losh***valuesatplay.org***Synopsis:**

An interview with a game designer.

**Keywords:**

video, interview, America's Army, gender identity, gender equity, values at play, avatars

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Walls, Douglas (2005)****"Just Who Wears the Tights in This Household?": Technological Dramas, Gender Trouble, and Cryptic Studios***DIGRA conference***Synopsis:**

An analysis of the MMOG City of Heroes looked at how players construct the gender identity of their avatars and whether that construction can be seen as a political statement or expression.

**Keywords:**

conference, MMO, City of Heroes, gender identity, avatars, sexuality

**Full Text:** No | **Abstract:** Yes | **Highlights:** Yes

## Children (17 entries)

Selected highlights from the CHILDREN tag  
*(Each highlight is associated with one or more entries in the investiGaming collection. The authors' last name and year of publication is referenced after the highlight. Complete citations for all 17 investiGaming.com entries directly related to CHILDREN appear at the end of highlights.)*

### Digital Divide

■ Only about 22% of children in low income families had computers at home, compared to 91% of high income families. (Becker, 1998)

■ Teachers of lower-income students reported use computers more often than those teaching higher-income students. (Becker, 1998)

■ Lower-income students use computers at school more often for repetitive practice than high income students. (Becker, 1998)

### Gender Representation in Games

■ Player-controlled characters are usually male, and even nonhumans outnumbered female characters. (Henry J. Kaiser Family Foundation, 2002)

■ Female characters were severely underrepresented in video games, accounting for only 16% of all characters. (Glaubke, 2001)

■ Male characters were most likely to be portrayed as competitors (47%), while female characters were most likely to be portrayed as props or bystanders (50%). (Glaubke, 2001)

■ Male and female character roles and behaviors were frequently stereotyped, with males more likely to engage in physical aggression and females more likely to scream, wear revealing clothing and be nurturing. (Glaubke, 2001)

■ PC games were more likely than consoles to contain features that appeal to girls. (Glaubke, 2001)

### Gender Differences in Technology Career Orientation and Spatial Rotation

■ Most 12 to 15 year old girls do not imagine a career in a technical field, and when they imagined a computer scientist, most drew a man in a lab coat. (Kekelis, 2005)

■ Pre-K girls tend to have difficulty recognizing a collection of points as a shape or shapes. They may also have trouble manipulating dots or following dots in 3D environments. (Vasilyeva, 2007)

### Gendered Toy and Leisure Time Preferences

■ Girls' toys were associated with physical attractiveness, nurturance, and domestic skill, whereas boys' toys were rated as violent, competitive, exciting, and somewhat dangerous. (Blakemore, 2005)

■ Toys rated as most likely to be educational and to develop children's physical, cognitive, artistic, and other skills were typically rated as neutral or moderately masculine. (Blakemore, 2005)

■ For ages 1-12, children spent more time watching television than playing electronic games. Boys played more electronic games than girls across all ethnic groups in the study. Girls played more educational games than boys in the study. (Bickham, 2003)

■ Video game playing is less common among children six and under than most other types of media use, accounting for an average of just five minutes a day among all children in this age group. (Rideout, 2003)

■ Time commitment to game-play and educational game preference decreases as children age. (Buchman, 1996)

### Gaming and Computer Use

■ Girls now report using home computers as often, and with as much confidence, as boys. (Subrahmanyam, 2000)

■ 13 year old boys' leisure time activities were more masculine than younger boys. (Cherney, 2006.)

■ 13 year old girls' computer and gaming activities were less feminine than younger girls but their television show preferences became more feminine. (Cherney, 2006.)

### Games as Contexts for Play and Learning

■ Structuring social and physical elements of mixed gender, classroom collaborative software design project can improve girls' participation. (Ching, 2000).

■ Minds in Play takes a close look at games as a context for learning by placing children in the roles of producers rather than consumers of games. (Kafai, 1994).

■ Ethnographic study of a small group of boys playing console games over several months the hybrid, fluid and continuous nature of game spaces with the other social, imaginative and physical spaces the players may occupy. (Dixon, 2005)

---

**Becker, H.J. (2000)**

**Who's wired and who's not: Children's access to and use of computer technology**

*Children and Computer Technology, 10(2), 44-75*

**Synopsis:**

Two surveys were used to collect information from over 4,000 teachers and the parents of more than 23,000 children in order to analyze children's computer use at school as well as at home.

**Keywords:**

journal, digital divide, children, survey,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Bickham, D, Vandewater, E., Huston, A., Lee, J., Caplovitz, A and Wright, J. (2003)**

**Predictors of children's media use: An examination of three ethnic groups**

*Media Psychology, 5(2), 103-137*

**Synopsis:**

Data from the Child Development Supplement to the Panel Study of Income Dynamics representing 1,819 children were used in order to examine predictors of media use of children ages 1 to 12 from three ethnic groups (European America, African America, and Hispanic American).

**Keywords:**

academia, journal, case study, family dynamics, ethnicity, children, television viewership, parents and gaming,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Blakemore, J. E. O., & Centers, R. E. (2005)**

**Characteristics of boys' and girls' toys**

*Sex Roles, 53, 619-633*

**Synopsis:**

First, 292 undergraduates rated 126 toys as being suitable for boys, girls, or both. From these ratings, five categories of toys were established. Then four toysets were constructed using these categories. Finally, 706 undergraduates individually rated the toys measuring their characteristics.

**Keywords:**

academia, journal, experiment, toys, gender stereotypes, children

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Bryce, J. and Rutter, J. (2007)**

**Poca diversión: las barreras de las aficionados a los videojuegos/Not Much Fun: The constraining of female video gamers**

*ADOZ Journal of Leisure Studies, 31, 97-108.*

**Synopsis:**

This paper explores the social contexts which contribute to constraining female access gaming.

**Keywords:**

journal, gaming social context, children

**Full Text:** No | **Abstract:** Yes | **Highlights:** Yes

---

**Buchman, D.D., & Funk, J.B. (1996)**

**Video and computer games in the 90s: children's time commitment and game preference**

*Children Today, 24, 12-15*

**Synopsis:**

The study examined the game-playing habits of 900 children.

**Keywords:**

journal, children, violence, what women want, what men want

**Full Text:** No | **Abstract:** Yes | **Highlights:** Yes

---

**Cherney; I.D. and K. London (2006)****Gender-linked differences in the toys, television shows, computer games, and outdoor activities of 5- to 13-year-old children***Sex Roles, Volume 54 Issue 9, pages 717 - 726***Synopsis:**

Responses from 60 boys and 60 girls about their favorite toys, television shows, computer games, and outdoor activities were compared across leisure categories.

**Keywords:**

journal, toys, television viewership, preschool, children, sports

**Full Text:** No | **Abstract:** Yes | **Highlights:** Yes

---

**Ching, C., Kafai, Y., & Marshall, S. (2000)****Spaces for change: Gender and technology access in collaborative software design***Journal of Science Education and Technology, 9(1), 67–78***Synopsis:**

Concerns about boys in the discussions about gender equity were not the same between Australia and the U.K. There were various indicators used to establish gender inequality. There was disagreement about what types of reforms promote gender equity. The topic of masculinity has entered the field o

**Keywords:**

journal, academia, cooperation, game design, gender equity, children

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Dixon, Shanly and Simon, Bart (2005)****Boyhood Spaces: Play and Social Navigation through Video Games***DIGRA conference***Synopsis:**

An ethnographic study of a small group of boys playing console games over several months was used to argue against a view of digital game space in terms of disjunctive other, parallel or virtual worlds (e.g. Foucault's heterotopias).

**Keywords:**

conference, children, console, player types, gaming social context, parents and gaming, spatial cognition

**Full Text:** No | **Abstract:** Yes | **Highlights:** Yes

---

---

**Druin, A. (1999)****Cooperative inquiry: Developing new technologies for children with children***Proceedings of CHI 1999. ACM Press, 592-599***Synopsis:**

Describes a research approach that enables young children to have a voice throughout the technology development process.

**Keywords:**

children, journal,

**Full Text:** No | **Abstract:** Yes

---

**Glaubke, Christina, Miller, Patti, Parker, McCrae & Espejo, Eileen (2001)****Fair Play? Violence, Gender and Race in Video Games***Children Now (<http://publications.childrennow.org/>)***Synopsis:**

The publication examines the top-selling video games for each of the seven different game systems.

**Keywords:**

survey, report, children, player demographics, violence, ethnicity, avatars, what women want

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Kafai, Yasmin (1994)****Minds in Play: Computer Game Design for Children's Learning***Lawrence Erlbaum: Philadelphia***Synopsis:**

Follows a class of sixteen fourth-grade students from an inner-city public elementary school as they programmed games in Logo to teach fractions to third graders.

**Keywords:**

academia, book, children, elementary school, game design, learning

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Kekelis, L. (2005)****Hurdles in the pipeline: Girls and technology careers***Frontiers, 26(1), 99-109***Synopsis:**

A program introduced girls to robotics and digital animation and evaluated their attitudes.

**Keywords:**

journal, case study, IT careers, children,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

**Rideout, Victoria, Vandewater, Elizabeth, and Wartella, Ellen (2003)****Zero to Six: Electronic Media in the Lives of Infants, Toddlers and Preschoolers**

*A Kaiser Family Foundation Report, <http://www.kff.org/entmedia/3378.cfm>*

**Synopsis:**

A national study of more than 1,000 parents of children ages six months through six years were studied in order to help understand the implications that the explosion of electronic media marketed directly at this age group has had on young people's lives.

**Keywords:**

report, children, preschool, television viewership, computer skills, parents and gaming

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

**Subrahmanyam, K., Kraut, R., Greenfield, P.M. and Gross, E. (2000)****The impact of home computer use on children's activities and development**

*The future of children: Children and computer technology, Vol. 10, Issue 2, pp 123-144, [http://www.futureofchildren.org/usr\\_doc/vol10no2Art6.pdf](http://www.futureofchildren.org/usr_doc/vol10no2Art6.pdf)*

**Synopsis:**

This article provides an overview of the limited research on the effects of home computer use on children's physical, cognitive, and social development.

**Keywords:**

journal, children, learning process, academic achievement, violence, family dynamics, survey, aggression

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

**The Henry J. Kaiser Family Foundation (2002)****Children and video games: The Henry J. Kaiser Family Foundation**

*Kaiser Family Foundation (<http://www.kff.org/>)*

**Synopsis:**

The first fact sheet in a series on topics related to children, media and health focuses on video games.

**Keywords:**

academia, report, survey, children, player demographics, violence, internet use, ethnicity

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Tiltfactor (2007)****Interviews with Game Designer: Afi French**

<http://valuesatplay.org/>

**Synopsis:**

Describes how game stories can promote action and how children's attachment to characters affects a game's likeability.

**Keywords:**

video, interview, educational games, children, avatars, storytelling, social change games, values at play

**Full Text:** Yes | **Abstract:** Yes

---

**Vasilyeva, Marina, & Bowers, Edmond (2006)****Children's use of geometric information in mapping tasks**

*Journal of Experimental Child Psychology, 95, 255-277*

**Synopsis:**

In order to study how young children use geometric features of layouts in solving mapping tasks, 3-to-6 year old children were asked to identify a target location in a layout shaped as an isosceles triangle by using information provided in a picture of that layout.

**Keywords:**

journal, psychology, spatial cognition, children, preschool,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes



## Classroom Context (15 entries)

Selected highlights from the CLASSROOM CONTEXT tag *(Each highlight is associated with one or more entries in the investiGaming collection. The authors' last name and year of publication is referenced after the highlight. Complete citations for all 15 investiGaming.com entries directly related to CLASSROOM CONTEXT appear at the end of highlights.)*

### Computer Use in Schools

■ In many countries computer use in schools is dominated by men (Janssen 1993).

■ In many countries less than half of the schools have a special policy for the promotion of equal opportunities for boys and girls with regard to computer use (Janssen 1993).

■ Teachers started using three to five computers in their classrooms and they shifted from large group to small group instruction in order to build upon the knowledge students brought to school with a focus on cultural understandings and practice (DeVoogd 1998).

### Promoting Student Success

■ To promote student engagement and success, issues more significant than gender are how the science and technology-rich classroom environment is structured, and what pedagogical practices are in place (Mayer-Smith 2000).

■ Girls' success in middle school can be contributed to school reforms like team teaching and cooperative learning, especially when these techniques are used to address gender issues, match students with caring adults, and confront real student concerns such as violence, pregnancy, and social norms (American Association of University Women (AAUW) 1996).

■ While there is no easy answers to the question of which pedagogy suits who best, educators should avoid the idea of the 'quick fix' and be skeptical about government interventionist agendas and their over-reliance on male role models and whole class teaching (Daniels 2001).

### Children's Computer Use

■ Males ages 11-12 and 15-16 reported greater experience with and more positive attitudes towards computers than females (Comber 1997).

■ Younger pupils, both male and female, have greater experience with and more positive attitudes towards computers than older pupils (Comber 1997).

■ Female and male pupils reported similar levels of enjoyment of computers (Comber 1997).

■ 1st grade girls were more likely than 1st grade boys to use inclusive language during group brainstorm (Nicholson, 1998).

### Girls and Whole Class Success

■ Classrooms with higher female ratios tend to be more successful, with boys and girls alike excelling academically when compared with single-sex male classrooms or classrooms with lower female percentages (Lavy 2007).

■ The proportion of girls in a class has a significant positive effect on academic achievements of girls and of boys in high school, especially when girls outnumber boys by more than 55 to 60% (Lavy 2007).

■ In all-female classroom settings, girls are more likely to show leadership and experiment (Koch 1994).

### Barriers for Girls

■ Women tend to see technology and computers as precise and unforgiving. If something goes wrong, women tend to blame themselves for doing something wrong as opposed to blaming the machine (Koch 1994).

■ Games introduce children to basic technology. Gender bias inhibits girls' interest in games and access to computer technology (Koch 1994).

■ Women and minorities are underrepresented in technology-related careers for many reasons, including lack of access, level of math and science achievement, and emotional and social attitudes about computer capabilities (Brown 2001).

■ 1st grade girls working in groups to compose stories were likely to have their ideas critiqued, laughed at, or publically criticized when working in mixed gender groups than when working alone or in all female groups. (Nicholson, 1998)

■ 1st grade girls often had their concentration interrupted by boys, whereas the reverse was not observed (Nicholson, 1998).

### **Promoting Women's Success in Computer Science**

■ Schools and teachers can use the following strategies to attract women and minorities to high-tech careers and prepare them for work: (1) connect technology to female and minority students' interests; (2) work to change social attitudes; (3) involve business in developing the skills needed for high-tech occupations; and (4) provide career information (Brown 2001).

■ Collaborative and cooperative learning environments are effective teaching strategies for technology learning because they promote learning through social interaction with others (Brown 2001).

■ In order to increase female and minority students' interest in technology, teachers can introduce technology in the middle grades and provide mentors and role models (Brown 2001).

■ Schools can facilitate gender equity and leadership development by employing the following policies: (1) select software free of gender and ethnic bias; (2) ensure that computer laboratories are accessible to each gender, ethnic group, and income level, as well as to students with disabilities; (3) encourage the incorporation of technology strategies within all sectors of the curriculum; (4) provide staff training in technology; and (5) periodically review and revise equity policies as necessary (Brown 2001).

---

### **American Association of University Women (AAUW) (1996)**

#### **Girls in the Middle: Working to Succeed in School**

*American Association of University Women Educational Foundation: Washington, D.C.*

#### **Synopsis:**

A report of a study and video on the behavior of adolescent girls.

#### **Keywords:**

academia, report, middle school, gender identity, classroom, parents and gaming, family dynamics

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

### **Bertozzi, Elena (2008)**

#### **Attracting Females to a New Game Development Program**

*Game Education Network*

#### **Synopsis:**

The author describes the teaching strategies she used in order to increase the success and number of female and minority students in a game development program at the collegiate level.

#### **Keywords:**

academia, classroom context, adults younger, girls designing games,

**Full Text:** Yes | **Abstract:** Yes

---

### **Bradshaw, Lucy (2002)**

#### **SIM City, Markel forum on Children and Media**

*Powerpoint presentation*

#### **Synopsis:**

Outlines the use of the game SimCity in the classroom setting, its educational appeal and uniquely broad audience.

#### **Keywords:**

classroom, Sim City

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

### **Brown, B.L. (2001)**

#### **Women and Minorities in High-Tech Careers**

*Education Resources Information Center (ERIC)*

#### **Synopsis:**

Explores the reasons women and minorities are underrepresented in technology-related careers and suggests strategies that schools and teachers can use in order to attract women and minorities to high-tech careers and prepare them for work.

#### **Keywords:**

IT careers, gender stereotypes, gender equity, report, classroom context

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Carr, Diane; Pelletier, Caroline (2009)****Gamers, Gender, and Representation***Handbook of Research on Effective Electronic Gaming in Education***Synopsis:**

Explores the issue of gender and gendered game preferences, in relation to the cultural framing of the gaming audience.

**Keywords:**

book, chapter, gaming culture, gaming social context, what women want, classroom

**Full Text:** No | **Abstract:** Yes

---

**Comber, C., Colley, A., Hargreaves, D. J., & Dorn, L. (1997)****The effects of age, gender and computer experience upon computer attitudes***Educational Research, 39(2), 123–133***Synopsis:**

The effects of age, gender and prior computing experience upon attitudes towards computers were investigated in 278 secondary school pupils drawn from the 11-12 and 15-16 years age-groups.

**Keywords:**

journal, academia, classroom, middle school, computer skills,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Daniels, H., Creese, A., Hey, V., Leonard, D., Smith, M. (2001)****Gender and learning: equity, equality and pedagogy***Support for Learning, 16 (3), 112–116***Synopsis:**

Suggests that boys experience a contradiction between the cultural messages and practices associated with masculinity (competition and individuality) and the teaching practices typical of successful primary schooling (collaboration and codependency).

**Keywords:**

journal, learning, classroom, gender equity, learning process

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**DeVoogd, G. L. (1998)****Computer use lever power sharing: Multicultural students' styles of participation and knowledge***Computers and Education: An International Journal, 31(4), 351–364***Synopsis:**

Examines staff development experiences in four elementary classrooms in order to describe the evolving ways teachers came to learn how to build on the knowledge students brought to school with a focus on cultural understandings and practice related to computer use.

**Keywords:**

journal, academia, case study, elementary school, classroom,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Janssen Reinen, Ingeborg and Plomp, Tjeerd (1993)****Some gender issues in educational computer use: results of an international comparative survey***Computers & Education Volume 20, Issue 4 (June 1993) Pages: 353 - 365 ISSN:0360-1315***Synopsis:**

Examines data results from 21 countries regarding the involvement of women in the implementation and use of computers in the educational practice of elementary, lower secondary and upper secondary education.

**Keywords:**

journal, classroom, learning, computer skills, survey

**Full Text:** No | **Abstract:** Yes | **Highlights:** Yes

---

**Koch, Melissa (1994)****No Girls Allowed!***TECHNOS Quarterly Vol. 3(3)***Synopsis:**

Explains why girls are often turned off of computers and suggests techniques that might help girls become more interested in computers.

**Keywords:**

journal, gaming social context, psychology, what women want, Canada, classroom context

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Lavy, Victor & Schlosser, Analía (2007)**

**Mechanisms and Impacts of Gender Peer Effects at School**

*Institute for the Study of labor*

**Synopsis:**

Estimates the effects of classroom gender composition on scholastic achievements of boys and girls in Israeli primary, middle, and high schools and identifies the mechanisms through which these peer effects are enacted.

**Keywords:**

case study, conference, report, Israel, classroom, cooperation, competition

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Mayer-Smith, Jolie, Pedretti, Erminia, and Woodrow, Janice (2000)**

**Closing of the gender gap in technology enriched science education: a case study**

*Computers & Education*, v.35 n.1, p.51-63, Aug. 2000

**Synopsis:**

Four 10th grade science classes and three 11th grade physics classes were observed and interviews with two teachers and 81 students (48 females and 33 males) were conducted in order to investigate how students respond to the integration of technology with the teaching and learning of science.

**Keywords:**

journal, case study, classroom, gender inclusive

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Nicholson, Julie, Gelpi, Adrienne, Young, Shannon, and Sulzby, Elizabeth (1998)**

**Influences of gender and open-ended software on first graders' collaborative composing activities on**

*Journal of Computing in Childhood Education*, v.9 n.1, p.3-42, Jan. 1998

**Synopsis:**

36 first-grade students were observed composing stories on computers alone, in same-gender and in mixed gender groups, to analyze social and physical interactive behaviors, discourse patterns, and story content.

**Keywords:**

journal, elementary school, classroom context,

**Full Text:** No | **Abstract:** Yes | **Highlights:** Yes

---

**Schofield, J. W. (1995)**

**Computers and classroom culture**

*Cambridge, UK: Cambridge University Press*

**Synopsis:**

Investigates the potential of computer technology to improve education, by examining how the social organization of schools and classrooms influence the use of computers, and how computer use in turn affects the functioning of classrooms.

**Keywords:**

book, classroom

**Full Text:** Yes | **Abstract:** Yes

---

**Streitmatter, J. (1994)**

**Toward Gender Equity in the Classroom: Everyday Teachers' Beliefs and Practices**

*SUNY Press*

**Synopsis:**

Presents various aspects and considerations of gender equity in classroom teaching through conversations with and observations of eight teachers.

**Keywords:**

book, academia, gender equity, case study, gender stereotypes, classroom

**Full Text:** No | **Abstract:** Yes | **Highlights:** Yes

## Game Design (32)

Selected highlights from the GAME DESIGN tag  
*(Each highlight is associated with one or more entries in the investiGaming collection. The authors' last name and year of publication is referenced after the highlight. Complete citations for all 32 investiGaming.com entries directly related to GAME DESIGN appear at the end of highlights.)*

### The “New” Market

- The game industry cannot continue to grow unless it taps new markets, especially women (Ray, 2003).
- By understanding differences between men and women, the industry can apply the knowledge to traditional genres and tap the future market (Ray, 2003).
- It is possible to do socially positive work in the business of developing new media such as games, multimedia, and virtual reality, as well as make money (Laurel, 2001).
- Playtesting a learning game separately with males and females revealed ways early prototypes failed to engage female players, and facilitated revisions and iterations to strengthen the appeal and playability for middle school girls (Winn, 2006/2007).
- Female college students took more time to figure out how to play two unfamiliar prototype learning games, played more slowly, and made more errors than male college students (Winn, 2006/2007).

### “What Women Want” is not Necessarily the Best Approach

- Girls interests change from age to age and cultural moment to cultural moment (Dillon, 2008).
- It cannot be assumed that 8-year-old girls in 2008 have the same interests and attitudes as that same age would have had even five years ago (Dillon, 2008).
- Research on “what girls like best” in gaming has stalled in thinking, drawing from the early work of Cassell and Jenkins (Jenson, 2007).
- Games studies research on “what girls like best” needs to be re-thought drawing on broader approaches to gender and socio-cultural studies, or else the research will further legitimate inequalities and stereotypes (Jenson, 2007).

## Incorporating Values into Game Design

- Human values already exist in games, even if the designers were not thinking about these values during the design process (Cambridge, 2001).
- Game designers can intentionally incorporate human values into their games (Cambridge, 2001).
- Many designers struggle to find a balance between their own values, those of users and other stakeholders, and those of the surrounding culture (Flanagan, 2005).
- Values at Play describes case studies and proposes a methodology for consciously incorporating human values into game designs (Flanagan, 2008).
- Simulations are a kaleidoscopic form of representation that can provide us with multiple and alternative points of view (Frasca, 2004).
- Through simulation game players can realize that there are many possible ways to deal with their personal and social reality (Frasca, 2004).

## Girls and Boys as Game Designers

- Middle school boys overwhelmingly ranked game promos that involved fighting as their favorites (Heeter, 2009).
- Girls overwhelmingly ranked fighting game promos as their least favorite (Heeter, 2009).
- When placed in the role of game designer, girls consciously designed games for both male and female players (Heeter, 2009).
- When placed in the role of game designer, boys designed their games only for other boys (Heeter, 2009).
- Boys’ game ideas liberally borrowed from a successful commercial game (Heeter, 2009).
- Many factors influence how games are designed: context, the content, the game genre, game goals, the age of the designers, and the sex of the designer (Heeter, 2009).
- Girls rated girl-designed games significantly more fun to play than the boy-designed games even though they did not know the gender of the game designers (Heeter, 2009).

■ Boys imagined the boy-designed games would be significantly more fun to play than the girl-designed games even though they did not know the gender of the game designers (Heeter, 2009).

■ Girls' access to technology and participation in software design on mixed teams (10-12 year olds) could be improved by manipulating social, physical, and cognitive "spaces" in the project environment (Ching, 2000).

### **Unconscious Impacts of Gender Stereotypes**

■ Job applicants with masculine voices were rated as more competent than applicants with feminine voices, regardless of their actual gender and regardless of information in the resume (Sei Jin Ko, 2009).

■ The voice of job applicants with a feminine voice was perceived as babyish and triggered stronger stereotypes (Sei Jin Ko, 2009).

■ The warmth of a job applicant was rated on the basis of the resume (Sei Jin Ko, 2009).

■ An applicant with a feminine resume was rated as warmer than one with a masculine resume (Sei Jin Ko, 2009).

■ Warmth is stereotyped positively for females and negatively for males, and is associated with a caring, friendly personality (Sei Jin Ko, 2009).

■ Competence is stereotyped positively for males and is associated with intelligence and motivation (Sei Jin Ko, 2009).

■ Educators assigned to design software for girls tended to design "learning tools" (Huff, 1987).

■ Educators assigned to design software for boys and those assigned to design software for "students" (a gender neutral audience), tended to design "games" (Huff, 1987).

■ Designers' notions about the gender of their potential user resulted in sex-stereotyped software (Huff, 1987).

---

### **Bedigian, Louis (2004)**

**Designer, Artist, Author, Teacher, Researcher – Celia Pearce has done it all. Hear what she has to say about her life in the game industry.**

*gamezone.com*

#### **Synopsis:**

Interview with Celia Pearce when she was Research and External Relations Manager for the Arts Layer of Cal-(IT) (California Institute for Telecommunication and Information Technology) and Associate Director of Game Research at the University of California Irvine.

#### **Keywords:**

media-press, interview, game design, industry,

**Full Text:** Yes | **Abstract:** Yes

---

### **Bedigian, Louis (2004)**

**Game Designer Sheri Graner Ray Talks to GameZone about Quality, the Industry, and the Changes that need to be made**

*gamezone.com*

#### **Synopsis:**

Interview with Sheri Graner Ray about the Women's Game Conference, her career, and her thoughts on the industry.

#### **Keywords:**

industry, media-press, interview, game design, gender inclusive

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

### **Bertozzi, Elena (2008)**

**Attracting Females to a New Game Development Program**

*Game Education Network*

#### **Synopsis:**

The author describes the teaching strategies she used in order to increase the success and number of female and minority students in a game development program at the collegiate level.

#### **Keywords:**

academia, classroom context, adults younger, girls designing games, game design

**Full Text:** Yes | **Abstract:** Yes



---

**Ching, C., Kafai, Y., & Marshall, S. (2000)****Spaces for change: Gender and technology access in collaborative software design***Journal of Science Education and Technology*, 9(1), 67–78**Synopsis:**

Qualitative study examines a three-month software design activity in which mixed teams of girls and boys (10–12 year olds) designed and implemented multimedia astronomy resources for younger students.

**Keywords:**

journal, academia, cooperation, game design, gender equity, children

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Denner, J., Werner, L., Bean, S., & Campe, S. (2005)****The Girls Creating Games Program: Strategies for engaging middle school girls in information technology***Frontiers: A Journal of Women's Studies. Special Issue on Gender and IT*, 26(1), 90-98**Synopsis:**

62 sixth- to eighth-grade girls were analyzed through adult observations and program leader logs and participant surveys and interviews in order to determine if the program successfully helped girls overcome the barriers to girls' active participation in information technology.

**Keywords:**

journal, academia, girls designing games, IT careers, case study, middle school, game design

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Denner, Jill (2007)****The Girls Creating Games Program: An innovative approach to integrating technology into middle school***Meridian: A Middle School Computer Technologies Journal*, 1(10)**Synopsis:**

126 girls who were enrolled in the Girls Creating Games program were given pre- and post-test surveys and 31 girls who represented the range of grade levels, computer expertise, and race/ethnicity of the program participants were interviewed in order to determine the program's effectiveness.

**Keywords:**

journal, academia, middle school, girls designing games, computer skills, game design

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Denner, Jill and Campe, Shannon (2008)****What Do Girls Want? What Games Made By Girls Can Tell Us***in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing*, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press**Synopsis:**

Examines The Girls Creating Games (GCG) Program in order to determine which kinds of games girls make.

**Keywords:**

book, chapter, what women want, girls designing games, game design

**Full Text:** Yes | **Abstract:** No | **Highlights:** Yes

---

---

**Dillon, Beth (2008)****Heather Kelley: Game Designer at moboid***notesongamedev.net***Synopsis:**

Interview with moboid game designer Heather Kelley about her involvement in everything from AAA next-gen console games, interactive smart toys, handheld games, to web communities for girls.

**Keywords:**

interview, media-press, industry, workforce, game design,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes



---

**Flanagan, Mary (2005)****Troubling 'Games for Girls': Notes from the Edge of Game Design**

*Proceedings from DiGRA 2005, 16-20 June, Vancouver, BC, Canada*

**Synopsis:**

Description of the informal work with design partners when developing a the research project, RAPUNSEL, a game to teach girls programming.

**Keywords:**

conference, middle school, what women want, game design

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Flanagan, Mary and Nissenbaum, Helen (2008)****Design Heuristics for Activist Games**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press*

**Synopsis:**

Explores a variety of educational and activist game approaches, and looks specifically at the themes emerging from the RAPUNSEL educational game projects for young women. Articulates the authors' Values at Play design heuristics that could be incorporated into game design processes.

**Keywords:**

book, chapter, game design,

**Full Text:** Yes | **Abstract:** Yes

---

**Flanagan, Mary and Nissenbaum, Helen (2008)****Values at Play**

*valuesatplay.org*

**Synopsis:**

Video (and web site) describe the Values at Play project which is intended to encourage game designers to incorporate human values into games..

**Keywords:**

game design, values at play, video, interview

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Flanagan, Mary, Howe, Daniel, and Nissenbaum, Helen (2005)****Values at play: design tradeoffs in socially-oriented game design**

*Conference on Human Factors in Computing Systems, Proceedings of the SIGCHI conference on Human factors in computing systems*

**Synopsis:**

The project, RAPUNSEL, is presented as a case study of game design in a values-rich context. Initial steps toward a systematic methodology for discovery, analysis, and integration of values in technology design are described.

**Keywords:**

conference, game design, case study, values at play,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Frasca, G. (2004)****Videogames of the Oppressed: Critical Thinking, Education, Tolerance, and Other Trivial Issues**

*in First Person: New Media as Story, Performance, and Game. P. Harrington & N. Wardrip-Fruin (Eds.) Cambridge: MIT Press*

**Synopsis:**

Chapter explores the possibilities of non-Aristotelian game design based on the work of drama theorist Augusto Boal.

**Keywords:**

book, game design, civic engagement, values at play

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Fullerton, Tracy, Fron, Janine and Pearce, Celia (2008)****A Game of One's Own: Towards a New Gendered Poetics of Digital Space**

*The Fibreculture Journal, issue 11*

**Synopsis:**

An argument for a new poetics of game space that is more egalitarian and draws on a wider range of spatial and cognitive models.

**Keywords:**

academia, journal article, MMO, player types, motivations, pink games, what women want, game design, competition, storytelling, empowerment, femininity, the Sims

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Heeter, C., B. Winn, and D. Greene (2005)****Theories meet realities: Designing a learning game for girls**

*Conference Proceedings of the DUX (Designing the User eXperience) conference, San Francisco, November.*

**Synopsis:**

Case study illustrates a multidisciplinary team's process of designing a learning game, "Life Preservers," intended to have strong fun, science, and pedagogy AND to appeal to girls.

**Keywords:**

case study, conference, educational games, game design, learning, non gamers

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Heeter, Carrie, Egidio, Rhonda, Mishra, Punya, Winn, Brian and Winn, Jillian (2009)****Alien Games: Do girls prefer games designed by girls?**

*Games and Culture, Vol. 4, No. 1, 74-100*

**Synopsis:**

A three year study, with a content analysis of games envisioned by 5th & 8th graders, followed by a survey of students in the same age range reacting to video promos representing these envisioned games.

**Keywords:**

academia, journal, game design, survey, experiment, children middle school, girls designing games, gender inclusive, violence, avatars, humor, npcs, storytelling, genre educational games, Halo

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Huff, C., & Cooper, J. (1987)****Sex bias in educational software: The effects of designers' stereotypes on the software they design**

*Journal of Applied Social Psychology, 17, 519-532*

**Synopsis:**

Forty-three educators with programming experience were assigned to design educational software – some were told to design for boys, others for girls, and still others for "students." Research looked at whether and how designer expectations about the target player impacted what they designed.

**Keywords:**

journal, psychology, gender stereotypes, educational games, learning, gaming culture, game design

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**International Hobo (2004)****Demographic game design: How to make game design as valuable as marketing**

*blog.ihobo.com*

**Synopsis:**

Over 400 gamers were surveyed using the Myers-Briggs personality test. Four player type clusters were identified and gaming behaviors for each type and subtype were described.

**Keywords:**

psychology, game design, survey, player types

**Full Text:** No | **Abstract:** Yes | **Highlights:** Yes

---

**Jenson, Jennifer; Suzanne de Castell (2007)****Girls and Gaming: Gender Research, "Progress" and the Death of Interpretation**

*DIGRA conference 2007*

**Synopsis:**

Commentary on research about "what girls like best" and needed shifts in thinking.

**Keywords:**

conference, gaming culture, gender stereotypes, what women want, game design

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Kafai, Y. B. (1996)****Electronic playworlds: Gender differences in children's constructions of video games**

*in Y. Kafai & M. Resnick (Eds.), Constructionism in practice: Designing, learning, and thinking in a digital world (pp. 97-123). Mahwah, NJ: Lawrence Erlbaum Associates.*

**Keywords:**

book, chapter, girls designing games, game design

**Full Text:** Yes | **Abstract:** No

---

**Kafai, Yasmin (1998)****Video game designs by girls and boys: variability and consistency of gender differences**

*From Barbie to Mortal Kombat: Gender and Computer Games, Justine Cassell and Henry Jenkins, Eds., MIT Press, Pages: 90-114*

**Synopsis:**

To examine the context dependency of gender differences in students' game designs, data sets from two different fourth-grade game design projects were analyzed.

**Keywords:**

book, chapter, girls designing games, game design

**Full Text:** Yes | **Abstract:** No | **Highlights:** Yes

---

**Kafai, Yasmin, Heeter, Carrie, Denner, Jill and Jennifer Sun (2008)****Interview with Megan Gaiser**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press*

**Synopsis:**

Interview with Megan Gaiser, president and CEO of Her Interactive, a pioneering company in interactive entertainment targeted toward female play preferences.

**Keywords:**

book, chapter, game industry, workforce, game design, interview

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Laurel, Brenda (2001)****The Utopian Entrepreneur**

*Cambridge: MIT Press*

**Synopsis:**

A book about entrepreneur Brenda Laurel's game industry experiences with her company, Purple Moon, a series of computer games for girls.

**Keywords:**

book, game industry, what women want, game design, pink games, gender stereotypes

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Pelletier, Caroline (2008)****Gaming in Context: How Young People Construct their Gendered Identities in Playing and Making Games**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press*

**Synopsis:**

This chapter aims to broaden the discussion to examine how players use game play and game design to construct their own identities, including their gendered identities.

**Keywords:**

book, chapter, gender identity, girls designing games, gaming culture, gaming social context, game design

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Pratt, Mary K. (2007)****A Few Good Women Are Needed in Computer Gaming**

*Computerworld*

**Synopsis:**

Game industry professionals discuss the reasons women are underrepresented in the game industry and ways to draw women into the industry.

**Keywords:**

media-press, girls designing games, workforce, game industry, game design

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Ray, Sheri Graner (2003)****Gender inclusive game design: Expanding the market**

*Hingham, MA: Charles River Media*

**Synopsis:**

Chapters explore aspects of computer gaming, e.g. the differences in reward systems, game play preferences, and avatar selection criteria, and how these issues all apply to game design and designing games to appeal to women.

**Keywords:**

book, game design, gender inclusive, avatars, motivations, what women want

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Samyn, Michaël (2007)****Tale of Tales Interviews with Celia Pearce***tale-of-tales.com***Synopsis:**

Transcript of email interview with Celia Pearce about her design process and research on MMO games.

**Keywords:**

interview, MMO, game design, motivations

**Full Text:** Yes | **Abstract:** Yes

---

**Sei Jin Ko; Judd, Charles M.; Stapel, Diederik A. (2009)****Stereotyping Based on Voice in the Presence of Individuating Information: Vocal Femininity Affects Perceived Competence but Not Warmth**

*Personality and Social Psychology Bulletin*, vol. 35, no. 2, pp. 198-211, February

**Synopsis:**

An examination of whether people judge a job applicant's competence and warmth on the basis of vocal cues.

**Keywords:**

academia, experiment, journal, stereotypes, game design, NPCs

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Tiltfactor (2007)****Interviews with Game Designers: Tracy Fullerton***valuesatplay.org***Synopsis:**

Tracy Fullerton discusses how social values are everywhere and how social values can be expressed in games.

**Keywords:**

video, interview, values at play, game design

**Full Text:** Yes | **Abstract:** Yes

---

**Tiltfactor (2007)****Interviews with Game Designers: Michael Nitsche***valuesatplay.org***Synopsis:**

Short online video interview with Game Designer Michael Nitsche about layers of values and user generated values within game customization.

**Keywords:**

video, interview, values at play, Fable, game design, Sim City, Grand Theft Auto, Second Life, MMO

**Full Text:** Yes | **Abstract:** Yes

---

**Winn, B. and Heeter, C. (2006/2007)****Resolving Conflicts in Educational Game Design through Playtesting***Innovate 3 (2)***Synopsis:**

Outlines the development process, using formative research to resolve conflicts within a multi-disciplinary design team engaged in creating educational game designed for 7th, 8th, and 9th grade students, where a subgoal was appealing to girls and boys.

**Keywords:**

journal, academia, educational games, game design, middle school,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun (2008)****Interview with Brenda Brathwaite, Savannah College of Art and Design**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing*, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press

**Synopsis:**

Interview with Brenda Brathwaite, a twenty-five-year veteran of the video game industry and professor of game design at the Savannah College of Art and Design.

**Keywords:**

book, chapter, interview, game design, game industry, working conditions

**Full Text:** Yes | **Abstract:** Yes

## Game Industry (22)

Selected highlights from the GAME INDUSTRY tag  
(Each highlight is associated with one or more entries in the investiGaming collection. The authors' last name and year of publication is referenced after the highlight. Complete citations for all 22 investiGaming.com entries directly related to GAME INDUSTRY appear at the end of highlights.)

### Women in the Game Industry

■ The majority of game industry workers, both male and female, plan on leaving the game industry in the next 10 years due to burn-out and the long hours (Consalvo, 2008).

■ Fewer than 1 in 5 game industry professionals are women (Pham, 2008).

■ Women in game-related jobs make less money on average than their male counterparts (Pham, 2008).

■ According to the International Game Developers Association, only 11.5% of the gaming industry workforce was female as of 2005 (Pratt, 2007).

■ 88.5% of game industry professionals were male and 11.5% were female (IGDA, 2005).

Why There Aren't More Women in the Game Industry

■ Women often have different family obligations than men and they report being frustrated having to "fit in" with a masculine workplace culture (Consalvo, 2008).

■ From recruitment techniques to trade show entertainment the game industry is marketed towards males (Pham, 2008).

■ Due to long hours during "crunch time" the game industry makes it difficult for women to take time off to have a baby or switch to part-time hours to raise young children. Therefore, to increase women's participation in the industry companies should build more realistic schedules that minimize long hours (Pham, 2008).

■ Game designer tutorials follow a distinctly male learning paradigm (Pratt, 2007).

■ Women are discouraged from the game industry because of the negative portrayals of women and strong anti-female bias in popular games (Pratt, 2007).

■ The games industry's most important trade show had an exhibit hall "visually over-saturated" with highly sexualized and flamboyant women there to be used as bait (Jenkins, 2001).

### Getting Women into the Game Industry

■ If a player likes a game enough, they too want to work for that company (Fullerton, 2008).

■ Creating more games that appeal to women will help to create a "virtuous cycle" to draw more women into game creation (Fullerton, 2008).

■ An ideal female-friendly job environment encourages creativity, new ideas, interaction and communication, with open space to think instead of the cubicle (Fullerton, 2008).

■ While programs are actively trying to renew interest in technology in girls and to encourage them to seek careers in the industry, the current work environment and system have to be considered (Consalvo, 2008).

■ The more women play video games, the more they will come to see the industry as a serious career path (Pham, 2008).

■ Some game executives see women as a largely untapped audience for games and believe that having more women developers will increase the likelihood that more women will buy their products (Pham, 2008).

### The Game Playing Population

■ 38% of game players are women (ESA, 2008).

■ Women ages 18+ make up 30% of the game-playing population (ESA, 2008).

■ Boys ages 17 or younger make up 23% of the game-playing population (ESA, 2008).

■ The average adult woman plays games 7.4 hours per week (ESA, 2008).

■ The average adult man plays 7.6 hours per week (ESA, 2008).

■ The gender/time gap of the game-playing population has been decreasing since 2003 (ESA, 2008).

■ The popular stereotype of the game player as an antisocial male teenager no longer holds; there is increasing evidence of females playing games (Bryce Jo, 2002).

■ Our notions of “who is the player” needs greater depth and consideration of everyday leisure contexts (Bryce Jo, 2002).

■ Women comprise 43% of PC gamers and 35% of console gamers (Wright, 1999).

■ 53% of all female gamers are likely to play games online compared to 43% of male gamers (Wright, 1999).  
Increasing the Market

■ Game contents, marketing of games, gaming publications, and gaming websites are created largely by males, and target male consumers. Thus, female gamers have fewer choices that cater to their interests than male gamers (Wright, 1999).

■ Children’s lives today are radically different and more culturally impoverished than when adults were children, therefore, it is inefficient for men and women in the game industry to reflect on their childhood experiences when conceptualizing what today’s children want (Laurel, 2008).

■ By looking back at earlier models of games and play, as well as critiquing both exclusionary production processes and cultural stereotypes of “gamers” and “non-gamers” we can create a non-hegemonic game industry that provides playful products which appeal to both men and women, children and adults, and players of all races, ages and personal play styles (Fron, 2007).

---

#### **Bedigian, Louis (2004)**

##### **Xbox Director Laura Fryer Tackles Gaming’s Toughest Issues; Talks About Her Role in the Women’s Game Conference**

*gamezone.com*

##### **Synopsis:**

An interview with Laura Fryer, Director of the Xbox Advanced Technology Group.

##### **Keywords:**

industry, media-press, interview, storytelling, game industry

**Full Text:** Yes | **Abstract:** Yes

---

#### **Bedigian, Louis (2004)**

##### **Infinium Labs’ Kathy Schoback Shares Her Gaming Wisdom**

*gamezone.com*

##### **Synopsis:**

An interview with Kathy Schoback, Vice President of Content Strategy for Infinium Labs.

##### **Keywords:**

industry, media-press, interview, game industry,

**Full Text:** Yes | **Abstract:** Yes

---

#### **Brathwaite, Brenda (2008)**

##### **Op-ed: Women in Games: Who Cares?**

*gamecareerguide.com*

##### **Synopsis:**

Brenda Brathwaite was tired of being asked what it means to be a ‘women in games,’ so she called up a few male colleagues and asked them what it’s like to be a ‘man in games.’

##### **Keywords:**

industry, media-press, workforce, game industry

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

#### **Bryce Jo, Rutter Jason (2002)**

##### **Killing Like a Girl: Gendered Gaming and Girl Gamers’ Visibility**

*DIGRA conference 2002*

##### **Synopsis:**

Examines the relationship between gaming and gender.

##### **Keywords:**

conference, gender stereotypes, violence, sexuality, avatars, game industry

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Consalvo, Mia (2008)****Crunched by Passion: Women Game Developers and Work Place Challenges**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press*

**Synopsis:**

Explores some of the practices of the digital games industry, both in the daily functioning of the development cycle, as well as particular activities such as the production of industry workload reports that attempt to spur change in the industry as a whole.

**Keywords:**

book, chapter, industry, workforce, working conditions, game industry

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Dr. Kathryn Wright (1999)****The Gaming Industry & The Female Market**

*WomenGamers.com*

**Synopsis:**

Describes current statistics compiled by the IDSA and suggests that the game industry take the female demographic more into account.

**Keywords:**

industry, media-press, game industry, what women want,

**Full Text:** No | **Abstract:** Yes | **Highlights:** Yes

---

**ESA (Entertainment Software Association) (2008)****Game Industry Facts (2008)**

*Industry report, accessed April 4*

**Synopsis:**

Outlines the demographics of women gamers and analyzes how much time is spent playing games.

**Keywords:**

industry, report, player demographics, game industry

**Full Text:** No | **Abstract:** Yes | **Highlights:** Yes

---

**Fron Janine, Fullerton Tracy, Morie Jacquelyn Ford, Pearce Celia (2007)****The Hegemony of Play**

*DIGRA conference 2007*

**Synopsis:**

Introduces the concept of a “Hegemony of Play,” to critique the way in which technological, commercial and cultural power structures have dominated the development of the digital game and created a status quo which ignores the needs and desires of “minority” players such as women and “non-gamers.”

**Keywords:**

conference, game industry, non gamers,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Fullerton, Tracy, Fron, Janine. Pearce, Celia, and Morie, Jacki (2008)****Getting girls into the game: Towards a “Virtuous Cycle”**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press*

**Synopsis:**

Discusses what draws people to work for a game company and increasing the number of women going into the industry.

**Keywords:**

game industry, workforce

**Full Text:** No | **Abstract:** Yes | **Highlights:** Yes

---

**IGDA (International Game Developers Association) (2005)****Game Developer Demographics Report**

*International Game Developers Association*

**Synopsis:**

6500 game industry professionals were surveyed about their demographics including age, race, sexual orientation, and education.

**Keywords:**

survey, industry, game industry, ethnicity, workforce

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes



---

**Interactive Digital Software Association (IDSA) (2007)**
**Essential facts about the computer and video game industry**

*The ESA*

**Synopsis:**

Outlines the demographics of women gamers and analyzes how much time is spent playing games.

**Keywords:**

industry, survey, player demographics, game industry

**Full Text:** No | **Abstract:** Yes

---

**Jacobs, Stephen (2008)**
**Future Play: Daglow Talks Game Industry Myths**

*Serious Games Source*

**Synopsis:**

Outlines Stormfront Studios president Don Daglow's closing speech given at the Future Play 2008 conference.

**Keywords:**

media-press, industry, workforce, game industry

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Jenkins, Henry and Cassell, Justine (2008)**
**From Quake Grrls to Desperate Housewives: A Decade of Gender and Computer Games-**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press*

**Synopsis:**

A paper on women's participation in computer games.

**Keywords:**

book, chapter, gender stereotypes, what women want, game industry, The Sims, genre casual games, genre educational games, gender inclusive, Desperate Housewives

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Jenkins. Henry (2001)**
**From Barbie to Mortal Combat: Further Reflections**

*presented at Playing By The Rules: The Cultural Policy Challenges of Video Games, U. Chicago, October, <http://culturalpolicy.uchicago.edu/conf2001/papers/jenkins.html>*

**Synopsis:**

Observations from the exhibit hall at the Electronic Entertainment Expo in 2001.

**Keywords:**

conference, academia, game industry, sexuality

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Keave, Vincent (2008)**

*The Perspectives of Tracy J. Butler*

*escapistmagazine.com*

**Synopsis:**

An interview with Tracy J. Butler, the creator of web comic Lackadaisy and a 3-D artist for online MMOGs, about the industry.

**Keywords:**

Industry, media-press, interview, game industry, workforce, working conditions, IT careers, what women want, gender inclusive

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Laurel, Brenda (2008)**
**Notes from the Utopian Entrepreneur**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press*

**Synopsis:**

Discusses the problem of men and women in the game industry base decisions about what boys and girls want on their own childhood experiences.

**Keywords:**

book, chapter, what men want, what women want, gender stereotypes, game design, Purple Moon, game industry

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Laurel, Brenda (2001)****The Utopian Entrepreneur***Cambridge: MIT Press***Synopsis:**

A book about the business of developing new media products.

**Keywords:**

book, game industry, what women want, game design, pink games, gender stereotypes

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Pham, Alex (2008)****Women left on sidelines in video game revolution***Los Angeles Times***Synopsis:**

Explores women's roles in the game industry, why they are underrepresented, and ways to increase their participation in the industry.

**Keywords:**

media-press, report, game industry, workforce,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Pratt, Mary K. (2007)****A Few Good Women Are Needed in Computer Gaming***Computerworld***Synopsis:**

Game industry professionals discuss the reasons women are underrepresented in the game industry and ways to draw women into the industry.

**Keywords:**

media-press, girls designing games, workforce, game industry

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Ruberg, Bonnie (2008)****Women in Games: The Gamasutra 20***Gamasutra, May 21***Synopsis:**

The first Gamasutra list of Top 20 women working in the video game industry in 2008.

**Keywords:**

Industry, media-press, work force, game industry, gender equity, IT careers

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun (2008)****Interview with Nichol Bradford, Vivendi Games**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press*

**Synopsis:**

An interview with Nichol Bradford, the senior global director of strategic growth at Vivendi Games (VG) who works on strategic planning and special projects.

**Keywords:**

book, chapter, interview, game industry, ethnicity, workforce

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun (2008)****Interview with Brenda Brathwaite, Savannah College of Art and Design**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press*

**Synopsis:**

An interview with Brenda Brathwaite, a twenty-five-year veteran of the video game industry and professor of game design at the Savannah College of Art and Design.

**Keywords:**

book, chapter, interview, game design, game industry, working conditions

**Full Text:** Yes | **Abstract:** Yes

## Gaming Culture (16)

Selected highlights from the GAMING CULTURE tag *(Each highlight is associated with one or more entries in the investiGaming collection. The authors' last name and year of publication is referenced after the highlight. Complete citations for all 16 investiGaming.com entries directly related to GAMING CULTURE appear at the end of highlights.)*

### Gaming Competitions

- There appeared to be increased segregation of pro-players by sex, and more single sex teams (Taylor, 2008).
- There were higher prize winnings for male teams (Taylor, 2008).
- Women's competitions appeared to have a secondary status (Taylor, 2008).
- There was a "glamorization" of women game players in the marketing and promotion of some female-only teams (Taylor, 2008).

### Getting Girls into the Gaming Culture

- Japanese gaming culture has produced highly successful games that cross gender boundaries (Ito, 2008).
- Japanese games such as Pac Man, Donkey Kong, Dig Dug and Parappa the Rapper provided alternatives to shooting, fighting, and racing as idioms for game play (Ito, 2008).
- Japanese games have produced girl-friendly cute characters derived from Japanese animation (Ito, 2008).
- The example of the character Pikachu in Pokemon demonstrates a cute and relatively non-violent play idiom appealing to both boys and girls (Ito, 2008).
- Girls are strongly present in Japanese gaming culture now (Ito, 2008).
- The participation of girls is thus all the more important and educational games need to take into account girls' perspectives and preferences (de Castell, 2006).

### The Importance of Getting Girls into Gaming

- Boys' early and sustained experience with gaming gave them an advantage in building competence and confidence with computers (de Castell, 2006).

- Computer-based media is increasingly important for learning and work, and games are being enlisted for educational purposes (de Castell, 2006).

- Educational deployment of game-based learning threatens to compound and intensify girls' disadvantage (de Castell, 2006).

### Reasons for Gender Gaps in Gaming

- There appears to be a persistent gender gap with regard to gaming. It is due to gaps in interest and in learning of technology (Ito, 2008).
- Gaming is "culturally coded" male (Ito, 2008).
- Gaming provides an accessible entry point into geek identities and practices that are tied to technical expertise and media literacy, but this entry point is more accessible to those with high-end gaming resources and more appealing to males (Ito, 2008).
- Research on "what girls like best" in gaming has stalled in thinking, drawing from the early work of Cassell and Jenkins (Jenson, 2007).
- A gamut of gender stereotypes have become canonical in the field, re-instated by Sheri Graner-Ray (Jenson, 2007).
- Games studies research on "what girls like best" needs to be re-thought drawing on broader approaches to gender and socio-cultural studies, or else the research will further legitimate inequalities and stereotypes (Jenson, 2007).
- Game Designers notions of the potential user resulted in sex-stereotyped software (Huff, 1987).

### Video Game Characters

- Video game characters potentially shape players' perceptions of gender roles through indirect messages (Miller, 2007).
- Players learn societal expectations of appearance, behavior, and roles for men and women (Miller, 2007).
- In a content analysis of 49 articles in video game magazine articles, male characters were more likely to be heroes and main characters, use more weapons, have more abilities, and be more muscular and powerful (Miller, 2007).

■ Females were more often supplemental characters, more attractive, sexy, and innocent, and wear more revealing clothing (Miller, 2007).

Sexual Identity within Video Games

■ Because there is no physical body in video games, players had to establish their sexual identity through messaging and talk, displaying mental or social attributes (Alix, 2006).

■ Males were challenged in that they did not have to be macho to win (Alix, 2006).

■ Females were challenged in finding ways to express femininity in a game that features all-male characters engaged in endless violent conflict (Alix, 2006).

---

### **Alix, Avery (2006)**

#### **Beyond Sp34king L33t: How 'Net Gladiators Discursively Construct Gendered Identity**

*International Communication Association, Dresden International Congress Centre, Dresden, Germany,*

#### **Synopsis:**

A case study of the game Counter-Strike looking at player interactions, especially conversations and messages that convey sexual identity and establish relationships between the sexes.

#### **Keywords:**

case study, gender identity, internet use, CounterStrike, gaming culture, masculinity, femininity

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

### **Carr, Diane; Pelletier, Caroline (2009)**

#### **Gamers, Gender, and Representation**

*Handbook of Research on Effective Electronic Gaming in Education*

#### **Synopsis:**

Explores the issue of gender and gendered game preferences, in relation to the cultural framing of the gaming audience.

#### **Keywords:**

book, chapter, gaming culture, gaming social context, what women want, classroom

**Full Text:** No | **Abstract:** Yes

---

### **de Castell, S.& Jenson, J. (2006)**

#### **You're Going to Die: Gender, Performance and Digital Gameplay**

*Proceeding (528) Computers and Advanced Technology in Education*

#### **Synopsis:**

Reports on findings from a three-year, Canadian federally funded research project entitled "Education, Gender and Gaming" that examined why far more boys than girls play video games.

#### **Keywords:**

case study, conference, Canada, gender stereotypes, gaming culture, educational games, learning outcome

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

### **Huff, C., & Cooper, J. (1987)**

#### **Sex bias in educational software: The effects of designers' stereotypes on the software they design**

*Journal of Applied Social Psychology, 17, 519-532*

#### **Synopsis:**

Forty-three educators with programming experience designed software for either boys, girls, or students to study whether their expectations of the target player made a difference in what they designed.

#### **Keywords:**

journal, psychology, gender stereotypes, educational games, learning, gaming culture, game design

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

### **Ito, Mimi (2008)**

#### **Gender Dynamics of the Japanese Media Mix**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press*

#### **Synopsis:**

A description of Japanese gaming culture and trends.

#### **Keywords:**

book, chapter, Japan, gaming culture, gender inclusive, player type, Pokemon, npcs, media literacy

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Ito, Mizuko and Matteo Bittanti (2008)**
**Final Report: Gaming**

*in Hanging Out, Messing Around, Geeking Out: Living and Learning with New Media, part of "Kids' Informal Learning with Digital Media: An Ethnographic Investigation of Innovative Knowledge Cultures," a three-year collaborative project funded by the John D. and Catherine T. MacArthur Foundation*

**Synopsis:**

A discussion of different genres of gaming practices and the discourses that create boundaries between different forms of game play in terms of learning and development.

**Keywords:**

academia, chapter, children high school, gaming social context, gaming culture, gender identity, co play, empowerment, friendship

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Jenson, Jennifer; Suzanne de Castell (2007)**
**Girls and Gaming: Gender Research, "Progress" and the Death of Interpretation**

*DIGRA conference 2007*

**Synopsis:**

Discusses the research on "what girls like best" and shifts in thinking.

**Keywords:**

conference, gaming culture, gender stereotypes, what women want, game design

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Kiesler, S., Sproull, L., & Eccles, J. (1985)**
**Poolhalls, chips and war games: Women in the culture of computing**

*Psychology of Women Quarterly, 4, 451-462*

**Synopsis:**

An article that asks why computers are more attractive to boys than to girls and offers a cultural framework for explaining the apparent sex differences.

**Keywords:**

journal, children, gaming culture, computer skills, gaming social context

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Miller, M.K. and Summers, A. (2007)**
**Gender differences in video game characters' roles, appearances, and attire as portrayed in video game magazines**

*Sex Roles, v57, 733-742, 2007*

**Synopsis:**

A content analysis of 49 articles in video game magazines, coding 115 characters, to study gender roles.

**Keywords:**

journal, avatars, sexuality, gaming culture, fandom, gender stereotypes

**Full Text:** No | **Abstract:** Yes | **Highlights:** Yes

---

**Schott, G. R., & Horrel, K. R. (2000)**
**Girl gamers and their relationship with the gaming culture**

*Convergence, 6, 4 36-53*

**Synopsis:**

In-depth interviews and ethnographic game-play observations were used to investigate the current accessibility and allure of gaming platforms for females.

**Keywords:**

journal, academia, gaming culture, feminism, gender stereotypes

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Taylor, Nicholas, Jenson, Jennifer and Suzanne de Castell (2007)**
**Gender in Play: Mapping a Girls' Gaming Club**

*DIGRA conference 2007 (<http://www.digra.org/dl/>)*

**Synopsis:**

This paper explores micro-interactions at an elementary school girls' gaming club when five girls' gaming is interrupted by boys.

**Keywords:**

conference, gaming culture, gaming social context, elementary school, Canada,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Taylor, T. L. (2008)**

**Becoming a Player: Networks, Structure and Imagined Futures**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press*

**Synopsis:**

Summarize findings on girls' interactions with computers and discovers how girls generate views and knowledge that are both personally meaningful and useful. Provides practical considerations for classroom use of technology.

**Keywords:**

book, chapter, editorial, professional gaming, CounterStrike, gender stereotypes, gaming culture, what women want, gender identity, gender equity

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Taylor, T.L. (2007)**

**Play Between Worlds: Exploring Online Game Culture**

*MIT Press*

**Synopsis:**

Description of observations based on about four years of playing EverQuest as a female necromancer gnome.

**Keywords:**

book, chapter, editorial, EverQuest, gaming culture

**Full Text:** No | **Abstract:** Yes | **Highlights:** Yes

---

**Weil, Elizabeth (1997)**

**The Girl-Game Jinx**

*21st Salon: The Culture of Technology, The Technology of Culture*

**Synopsis:**

Describes a talk given at the 1997 Computer Game Developers Conference about what types of games would appeal to girls.

**Keywords:**

media-press, what women want, gaming culture, report

**Full Text:** Yes | **Abstract:** Yes

---



---

**Wotkowski, E. and Stuikamon, H. (2004)**

**Accessing Space - Barriers of Entrance: Females and the Counter-Strike Universe**

*MS Thesis. IT-University*

**Synopsis:**

A study of the game Counter-Strike, played in internet cafes, and its accessibility to women.

**Keywords:**

academia, gaming culture, gaming social context, what women want, counterstrike, non gamers

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Yosmeer, Mirjam, Jansz, Joreon, and Yan Zoonen, Liebet (2006)**

**Video Games as Technologies of Gender: Analyzing Final Fantasy Forums**

*International Communication Association Conference, Germany*

**Synopsis:**

An analysis of postings that contained some sort of gender-performance from online forums concerning the RPG Final Fantasy X-2.

**Keywords:**

conference, case study, gaming culture, gaming social context, internet use, feminine, masculine, Final Fantasy X-2, fandom

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

## Gaming Social Context (29)

Selected highlights from the GAMING SOCIAL CONTEXT tag *(Each highlight is associated with one or more entries in the InvestiGaming collection. The authors' last name and year of publication is referenced after the highlight. Complete citations for all 29 InvestiGaming.com entries directly related to GAMING SOCIAL CONTEXT appear at the end of highlights.)*

### Where Gamers Play

■ Female gamers were about twice as likely to be playing with someone else playing in the same room with them than male gamers. Men were more likely to be playing alone. (Yee, 2008; Williams 2009)

■ 65% of game-playing teens played with other people who were in the room with them. (Lenhart, 2008)

■ Females may be under-represented in certain game genres not because they don't like those games, but because male players who dominate many physical and social access points actively discouraged women from entering (Yee, 2008).

■ The physical space where people play MMOs affects who can play and for how long. Games played on high-end PCs with internet access bars access for many demographics. (Lin, 2008)

■ Public Cyber Cafes facilitated access for young males to play MMOs but are unwelcoming or even dangerous to females. (Lin, 2008; Lin 2005)

■ Most Taiwanese women only have access to a high-end computer at home which they have to share with siblings and obey parental restrictions. (Lin, 2008; Lin 2005)

■ There was a level of anxiety among the female participants when boys first intruded on, and then disrupted what is intended to be a girls-only site for gameplay. (Taylor, 2007)

■ Boys frequented arcades more so than girls (63% to 36%, respectively), and girls were more likely to go to the arcade in a group when they did go. (Cantrell, 2006)

■ Public gaming areas are largely male-dominated spaces. Women enjoyed playing video games in the privacy of their own home, a typically feminine space. (Bryce, 2003)

■ Online communities blend public and household gaming into one large, genderless virtual space. (Bryce, 2003)

■ What we think of as preferences of girls for certain games may be due to differences of access, competence, and peer culture than gender. (Carr, 2005)

■ Boys reported actually playing significantly more than girls do. One possible reason for this discrepancy is that, for some girls, their access to computers and video games is controlled by their brothers. (McNamee, 1998)

■ In all-female classroom settings, girls were more likely to show leadership and experiment. (Koch, 1994)

■ For women with little previous computer experience, those who worked in the presence of another performed less well, expressed more negative attitudes toward computers, and reported higher anxiety than did women who worked alone. For men, the presence of others had the opposite effect. (Robinson-Stavely, 1990)

### Adult Social Gaming Contexts

■ About two-thirds of female gamers were playing with a romantic partner, compared to less than one-fifth of male gamers. Female MMO players who were over 35 were least likely to be playing with a romantic partner. (Yee, 2008)

■ Although Baby Boomers like to play alone (88%), they are highly community-oriented and social. Increasingly, they are playing online games. (Pearce, 2008)

■ Boomers wanted courteous and friendly social interaction on Web sites and forums. In forums and online games, many complained of being harassed by younger players, being made to feel stupid when asking questions, or being treated in a generally rude fashion. (Pearce, 2008)

■ There are exceptions, but girls and women typically play fewer games and have shorter sessions; males are more likely to make time to play, females to fit playing around other interests and activities (Dawson, 2007)

■ Most male gamers appeared to regard women who are keen on games as unusual. (Dawson, 2007)

■ Almost all fathers and some mothers spent considerable leisure time playing the games, sometimes with their child(ren). (Gailey, 1996)



- Females played less often in groups than the men. More broadly, the social rewards of gaming – talking about how you are doing, playing together, helping or beating each other – are less a part of the attraction of gaming for females than males. (Dawson, 2007)
- Playing an MMO as part of a romantic relationship helped female players justify long hours spent playing. (Yee, 2008)
- Female players must be much more conscientious and vigilant about revealing their real identities and contact information. (Yee, 2008)
- Many social gamers thought it would be strange to play games all by themselves. Likewise, men like social interaction in popular games that arises from competition and cooperative game play. (Lazzaro, 2008)
- Parents and later, college roommates discouraged young women in Taiwan from “wasting” their time gaming and potentially being inconsiderate, noisy or visually distracting in a shared home or dorm. (Lin, 2008; Lin 2005)
- Females were marginalized through their gaming career and have a tendency to leave video gaming earlier than males because of other constraints including time. (Bryce, 2007)
- The results showed that social interactions in both virtual and physical spaces are of central importance for the enjoyment of online gamers. (Lin, 2005)
- Male and female gamers used videogames and the discussions on game-forums to think and talk about the meaning they attribute to male and female gender performances. (Yosmeer, 2006)
- Women participated actively in the (forum) discussions. (Yosmeer, 2006)

### **Teens' and Children's Social Gaming Contexts**

- 47% of teens played online games with people they know in their offline lives. (Lenhart, 2008)
- In fact, family plays a major role in people's gaming lifestyles, and a particularly interesting dynamic arises when grandchildren come into the picture. (Pearce, 2008; Ita, 2008)

- Girls who become keen on gaming following the example of their brothers often become 'hard core' gamers, playing games more often associated with boys. (Dawson, 2007)
- Surveys showed girls' participation in domestic gaming contexts as consisting of either spectatorship or a form of highly-contingent play, where male relatives and friends take over controllers at the first signs of difficulty (Taylor, 2007) In a social context where gender identity did not need to be established through difference (boy vs. girl), the way girls discussed, interpreted, and designed games was not used to achieve a gendered identity but rather other aspects of their identity. (Pelletier, 2008)
- Teens who played games socially (a majority of teens did so) were more likely to be civically and politically engaged than teens who played games primarily alone. Teens who played games with others online are not statistically different in their civic and political engagement from teens who play games alone. (Kahne, 2008)
- Boys are about twice as likely as girls to report having civic gaming experiences, even when controlling for frequency of game play. (Kahne, 2008)
- Girls apparently had no problem keeping up with this alleged boy-culture and were not afraid to make themselves heard when boys engaged in sexist language and comments. (Yosmeer, 2006)
- It was more socially acceptable for boys to play video games “a lot” than it was for girls. (Funk, 1996)
- More girls than boys felt it was possible for a girl to be popular and play a lot of electronic games (Funk, 1996).
- 3.5 to 4.5 year old girls were more persistent than boys when trying to complete puzzles and the girls were better able to verbalize their strategies both to the experimenter and to a classmate than the boys were. (Tchernigova, 1995)
- Observations and interviews showed that girls have an interest in electronic games and enjoy playing. Girls were particularly interested when given the opportunity to socially interact with others. (Inkpen, 1994)

---

**Bertozzi, Elena (2008)****Attracting Females to a New Game Development Program***Game Education Network***Synopsis:**

The author describes the teaching strategies she used in order to increase the success and number of female and minority students in a game development program at the collegiate level.

**Keywords:**

academia, classroom context, adults younger, girls designing games,

**Full Text:** Yes | **Abstract:** Yes

---

**Bryce, J. and Rutter, J. (2007)****Poca diversión: las barreras de las aficionados a los videojuegos/Not Much Fun: The constraining of female video gamers***ADOZ Journal of Leisure Studies, 31, 97-108.***Synopsis:**

This paper explores the social contexts which contribute to constraining female access gaming.

**Keywords:**

gaming social context, journal, children

**Full Text:** No | **Abstract:** Yes | **Highlights:** Yes

---

**Bryce, Jo and Rutter, Jason (2003)****Gender dynamics and the social and spatial organization of computer gaming***Leisure Studies, Volume 22, Issue 1 June 2003, pages 1 - 15***Synopsis:**

Looks broadly at computer games as a leisure activity for women.

**Keywords:**

journal, gaming social context, gaming culture, gender stereotypes

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Cantrell, Tania (2006)****A Female Participant-Observer's View into How and Why Women Play Shooter Video Games***International Communication Association Conference, Germany***Synopsis:**

Research found 3 general categories for reasons why women play shooter games: Partner in Gaming, Stand by your Friend and "It's Fun".

**Keywords:**

conference, first person shooter, gaming social context, co play, play style, motivations

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Carr, Diane (2005)****Contexts, gaming pleasures, and gendered preferences***Simulation & Gaming, vol. 36, no. 4, pp. 464-482, December 2005***Synopsis:**

A study of gaming preferences of girls in a club at an all-girls school in the U.K.

**Keywords:**

journal, what women want, United Kingdom, gaming social context

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Dawson, C. R., A. Cragg, Taylor, C. and Toombs, B. (2007)****Video Games: Research to improve understanding of what players enjoy about video games, and to explain their preferences for particular games***British Board of Film Classification (BBFC)***Synopsis:**

An extensive, large study of British players between the ages of 7 and 40, including interviews and discussion groups with players, parents, professionals, and journalists.

**Keywords:**

case study, report, England, game genres, casual games, Gaming Social Context, Player types, Motivations, what women want

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Funk, J. B., & Buchman, D. D. (1996)****Children's perceptions of gender differences in social approval for playing electronic games***Sex Roles, 35(3/4), 219-231***Synopsis:**

A study of middle school students that characterized children's views of gender differences in social approval for electronic game playing.

**Keywords:**

journal, academia, children, experiment, gaming social context

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Gailey, C. W. (1996)****Mediated messages: Gender, class, and cosmos in home video games***In P. M. Greenfield, & R. R. Cocking (Eds.), Interacting with video (pp. 9-23). Norwood, NJ: Ablex***Synopsis:**

A combination of content analysis of Nintendo home system games and interviews of families.

**Keywords:**

book, chapter, digital divide, ethnicity, family dynamics, gaming social context

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Inkpen, K., Uptis, R., Klawe, M., Lawry, J., Anderson, A., Ndunda, M., et al. (1994)****We have never forgetful flowers in our garden: Girls' responses to electronic games***Journal of Computers in Math and Science Teaching, 13(4), 383-403***Synopsis:**

Studies how girls interact within a game environment, in the interactive science museum Science World BC during the summer of 1993. Part of a large-scale research project aimed at increasing the number of children who enjoy learning math concepts through games.

**Keywords:**

journal, case study, educational games, what women want, gaming social context

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Ito, Mizuko and Matteo Bittanti (2008)****Final Report: Gaming**

*in Hanging Out, Messing Around, Geeking Out: Living and Learning with New Media, part of "Kids' Informal Learning with Digital Media: An Ethnographic Investigation of Innovative Knowledge Cultures," a three-year collaborative project funded by the John D. and Catherine T. MacArthur Foundation.*

**Synopsis:**

A discussion of different genres of gaming practices and the discourses that create boundaries between different forms of game play in terms of learning and development.

**Keywords:**

academia, chapter, children high school, gaming social context, gaming culture, gender identity, co play, empowerment, friendship

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Kahne, Joseph, Middaugh, Ellen, and Chris Evans (2008)****The Civic Potential of Video Games**

*digitallearning.macfound.org*

**Synopsis:**

A phone survey of 1,102 young persons in the US aged 12 to 17 conducted by Pew Internet and American Life Project in order to explore the link between video games and civic engagement.

**Keywords:**

survey, report, high school, player demographics, game genres, digital divide, parents and gaming, gaming social context, co play, family dynamics, civic engagement, learning, Internet use

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Koch, Melissa (1994)****No Girls Allowed!**

*TECHNOS Quarterly Vol. 3(3)*

**Synopsis:**

Explains why girls are often turned off of computers and suggests techniques that might help girls become more interested in computers.

**Keywords:**

journal, gaming social context, psychology, what women want, Canada, classroom context

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Lazzaro, Nicole (2008)****Are Boy Games Necessary?**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press, 2008*

**Synopsis:**

A field study of 30 adults about their experiences playing favorite games, including observations and interviews with friends and family.

**Keywords:**

book, chapter, what women want, what men want, case study, gaming culture, gaming social context, gender inclusive, player types, motivations, player demographics

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Lenhart, Amanda; Kahn, Joseph, Middaugh, Ellen, etc (2008)****Teens, Video Games, and Civics: Teens' gaming experiences are diverse and include significant social interaction and civic engagement**

*Pew Internet & American Life Project: Washington D.C.*

**Synopsis:**

Telephone interviews of 1102 12- to 17-year-olds and their parents in were analyzed in order to determine which teens are playing games, the games and equipment they are using, the social context of their play, and the role of parents and parental monitoring regarding games.

**Keywords:**

academia, survey, report, high school, civic engagement, gaming culture, game genres, player demographics, gaming social context, parents and gaming

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Lin, Holin (2005)****Gendered Gaming Experience in Social Space: From Home to Internet Café**

*DiGRA*

**Keywords:**

conference, case study, gaming social context, family dynamics, Taiwan,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Lin, Holin (2008)****Body, Space and Gendered Gaming Experiences: A Cultural Geography of Homes, Dormitories and Cybercafes**

*Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press*

**Synopsis:**

A social study of female players in Taiwan incorporated field notes from observations at sixteen Internet cafes, interviews with 43 individual game players and nine focus groups, and the author's personal observations from over 500 hours of online gaming.

**Keywords:**

book, chapter, case study, Taiwan, MMO, gaming social context, gaming culture, family dynamics

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**McNamee, Sarah (1998)****Youth, Gender and Video Games: power and control in the home**

*Cool Places: Geographies of Youth Cultures by Tracey Skelton, Gill*

**Synopsis:**

Cool Places brings together the latest thinking within social, cultural and feminist studies to focus upon the complexities of youth cultures and their spatial representations and interactions.

**Keywords:**

book, case study, family dynamics, gaming social context

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Miller, L., Chaika, M., & Groppe, L. (1996)****Girls' preferences in software design: insights from a focus group**

*Interpersonal Computing and Technology: an Electronic Journal for the 21st Century, 4(2), 27-36*

**Synopsis:**

A small-scale pilot study to investigate adolescent girls' preferences in currently available computer software and future interactive software.

**Keywords:**

journal, case study, what women want, gaming social context, computer skills

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Osborne, Tamsin (2008)****The virtual battle of the sexes***BBC News, December 23***Synopsis:**

A study of differences between 2,400 male and female players of EverQuest II.

**Keywords:**

academia, industry, survey, play data, media-press, player demographics, genre MMO, gaming social context, motivations, sexuality

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Pearce, Celia (2008)****The Truth About Baby Boomer Gamers***Games and Culture Vol. 3, No. 2, 142-174***Synopsis:**

A study conducted by the child research organization "Children Now" analyzed the gender and racial representations of human characters in top-selling video games.

**Keywords:**

academia, journal, case study, seniors, player types, gaming social context, adult older

**Full Text:** No | **Abstract:** Yes | **Highlights:** Yes

---

**Pelletier, Caroline (2008)****Gaming in Context: How Young People Construct their Gendered Identities in Playing and Making Games**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press*

**Synopsis:**

This chapter aims to broaden the discussion to examine how players use game play and game design to construct their own identities, including their gendered identities.

**Keywords:**

book, chapter, gender identity, girls designing games, gaming culture, gaming social context

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Robinson-Stavelly, K., & Cooper, J. (1990)****Mere presence, gender, and reactions to computers: Studying human-computer interaction in the social***Journal of Experimental Social Psychology, 26, 168-183***Synopsis:**

A two part study observing men and women measuring computer performance and anxiety levels with people in the environment.

**Keywords:**

academia, journal, psychology, computer skills, gaming social context

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Taylor, Nicholas, Jenson, Jennifer and Suzanne de Castell (2007)****Gender in Play: Mapping a Girls' Gaming Club***DIGRA conference 2007***Synopsis:**

This paper explores micro-interactions at an elementary school girls' gaming club when five girls' gaming is interrupted by boys.

**Keywords:**

conference, gaming culture, gaming social context, elementary school, Canada,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Taylor, Nick (2005)****Megamen: Masculinities at Play in a Campus Arcade***DIGRA conference***Synopsis:**

This study tentatively explores connections between hetero-normative masculinity and video gaming enacted by patrons of a Canadian university's campus arcade/LAN.

**Keywords:**

conference, gaming social context, co play, Warcraft, cooperation

**Full Text:** No | **Abstract:** Yes

---

---

**Taylor, T. L. (2003)**

**Multiple Pleasures: Women and Online Gaming.**

*Convergence: The Journal of Research into New Media Technologies*, v9 no 1, 21-46

**Synopsis:**

Discussion of female players of MMORPGs based on interviews and ethnographic data.

**Keywords:**

journal, MMO, gaming social context, gaming culture, motivations, what women want, gender inclusive, aggression

**Full Text:** No | **Abstract:** Yes | **Highlights:** Yes

---

**Tchernigova, Svetlana (1995)**

**Puzzling Boys and Girls (Gender Differences in Problem-Solving in Preschoolers through Puzzles)**

*Research Report*

**Synopsis:**

Ten boys and 10 girls from the same preschool class with a median age of 4 years 1 month from multicultural middle class families were observed while solving puzzles in order to identify gender differences in preschoolers' problem solving skills.

**Keywords:**

report, children, preschool, competition, gaming social context, puzzles

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Williams, Dimitri, Mia Consalvo, Scott Caplan, and Nick Yee (2009)**

**Looking for gender (LFG): Gender roles and behaviors among online gamers**

*Journal of Communication*

**Synopsis:**

A survey of 7,129 Everquest II players is combined with in-game observations to examine gender differences in play motivations and lifestyle.

**Keywords:**

academia, journal, survey, gender theories, gender identity, motivations, gaming social context, genre MMO, sexuality, aggression

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Yee, Nick (2008)**

**Maps of Digital Desires: Exploring The Topography of Gender and Play in Online Games**

*In Beyond Barbie and Mortal Kombat: New perspectives on gender and gaming*, Kafai, Y, Heeter, C., Denner, J. and Sun, J., eds. MIT Press

**Synopsis:**

Multiple Surveys with data from 2,000 to 4,000 MMO players are combined with in-game observation to study various hypotheses about the dynamics of gender, play, and relationships in MMOs.

**Keywords:**

book, chapter, survey, player demographics, MMO, player types, what women want, what men want, co play, gaming social context

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Yosmeer, Mirjam, Jansz, Joreon, and Yan Zoonen, Liebet (2006)**

**Video Games as Technologies of Gender: Analyzing Final Fantasy Forums**

*International Communication Association Conference, Germany*

**Synopsis:**

An analysis of postings that contained some sort of gender-performance from online forums concerning the RPG Final Fantasy X-2.

**Keywords:**

conference, case study, gaming culture, gaming social context, internet use, feminine, masculine, Final Fantasy X-2, fandom

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes



## Gender Equity (20 entries)

**Scope Definition:** *GENDER EQUITY is about unequal opportunity or treatment of girls and boys and women and men, and fairness.*

**Selected highlights from the GENDER EQUITY tag**  
(Each highlight is associated with one or more entries in the *investiGaming* collection. The authors' last name and year of publication is referenced after the highlight. Complete citations for all 20 *investiGaming.com* entries directly related to GENDER EQUITY appear at the end of highlights.)

### Design/Style That Favors Boys or Girls

■ High-feminine 15- and 16-year-old girls preferred web sites with strong graphics and multimedia design over content (Agosto, 2004)

■ Games designed by middle school girls had a prominent theme of expressing and working through fears and social issues in their stories. The girls tended to use bright, vivid colors. Their stories took place in real world settings. Their stories involved moral decisions. They rarely used violent feedback. They used games to play with gender stereotypes, challenging authority, using humor. (Denner, 2005)

■ In the poetics of games, space was conceived as a domain to be conquered and a context for battle. This reflected a predominantly male sensibility. We need a "regendered" or "degendered" poetics of games that is more egalitarian and acknowledges a wider range of spatial and cognitive preferences. (Fullerton, 2008)

■ Elizabeth Losh thinks that the game America's Army is biased toward male players. (Tiltfactor, 2007)

■ Teaching practices that are typical in primary schools emphasized collaboration and codependency, whereas the cultural message to boys is that masculinity is associated with competition and individuality. This gave boys a contradictory experience that may contribute to the underachievement of boys. Our style of pedagogy is not suited to boys. (Daniels, 2001)

■ Ninety percent of adolescents thought technology was cool and regularly used it to chat. Only 28% of adolescent girls contemplated a career in technology compared with 52% of boys. Industry needs to show adolescents

that not everyone working in technology is an engineer and that companies need project leaders and business analysts. (Twentyman, 2008)

### Game Players and Gender

■ There appeared to be increased segregation of pro-players by sex, and more single sex teams. There were higher prize winnings for male teams. Women's competitions appeared to have a secondary status. There was a "glamorization" of women game players in the marketing and promotion of some female-only teams. (Taylor, 2008)

■ The Gamasutra panel had many candidates from which to choose a Top 20 list of women in the video gaming industry in 2008. (Ruberg, 2008)

### Aiming for Equity

■ Girls' access to technology and participation in software design on mixed teams (10-12 year olds) could be improved by manipulating social, physical, and cognitive "spaces" in the project environment. (Ching, 2000)

■ Fifty-six activities and 96 strategies called "The Neuter Computer" increased girls' use of computers by 144 percent in the classroom and in the home. (Sanders, 1986)

■ To increase girls' interest in computer technology as a career, introduce them to role models, female-friendly software, and computer-savvy peers in camps and workshops. (Furger, 1998)

■ Teachers in the classroom had diverse beliefs and practices about gender. Their philosophy and behavior were influenced by their institutions. Teachers could and did combat inequities resulting from gender socialization. (Streitmatter, 1994)

■ Concerns about boys in the discussions about gender equity were not the same between Australia and the U.K. There were various indicators used to establish gender inequality. There was disagreement about what types of reforms promote gender equity. The topic of masculinity has entered the field of gender research. (Yates, 1997)

■ Forty-four indicators were identified that measure whether males and females take equal advantage of educational opportunities, perform at the same level,



succeed at the same rate, and obtain the same benefits. (Bae, 2000; Freeman, 2004)

■ There are many strategies that will encourage more women and minorities to enter technology careers. For example, educators need to connect technology to students' interests, change social attitudes about women and minorities, involve business in education, and provide career information. Collaborative learning environments and social interaction are important in the learning setting. Introduce technology in middle school. Provide mentors and role models. (Brown, 2001)

■ Researchers in fields such as physics and astronomy, stem cell research, car design, genetics, archaeology and geographic information systems found new results when they factored gender into their analysis. (Schiebinger, 2008)

■ There is research evidence for discrimination that partly explains the lower percentages of women and minorities in science and engineering. (Sevo, 2008)

■ Academia needs to eliminate gender bias in developing critical talent. A coordinated effort across public, private, and government sectors is needed to reform our education and workplace systems that discriminate and discourage women. (Committee on Maximizing the Potential of Women in Academic Science and Engineering, 2007)

---

#### **Agosto, Denise (2004)**

##### **Using Gender Schema Theory to Examine Gender Equity in Computing: A Preliminary Study**

*Journal of Women and Minorities in Science and Engineering*, vol. 10:1, 18

##### **Synopsis:**

The study looked at preferences for website design versus content of eleven 14- and 15-year olds.

##### **Keywords:**

journal, case study, gender theories, computer skills, middle school, gender equity

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

#### **Bae, Y., Choy, S., Geddes, C., Sable, J., and Snyder, T. (2000)**

##### **Trends in Educational Equity of Girls and Women**

*National Center for Education Statistics, U. S. Department of Education, NCES 2000-030*

##### **Synopsis:**

Statistical measures of whether males and females have access to the same educational opportunities.

##### **Keywords:**

report, gender equity,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

#### **Brown, B.L. (2001)**

##### **Women and Minorities in High-Tech Careers**

*Education Resources Information Center (ERIC)*

##### **Synopsis:**

Explores the reasons women and minorities are underrepresented in technology-related careers and suggests strategies that schools and teachers can use in order to attract women and minorities to high-tech careers and prepare them for work.

##### **Keywords:**

IT careers, gender stereotypes, gender equity, report, classroom context

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

#### **Catherine Freeman (2004)**

##### **Trends in Educational Equity of Girls & Women: 2004**

*National Center for Education Statistics, U. S. Department of Education*

##### **Synopsis:**

Statistical measures of whether males and females have access to the same educational opportunities, updating the report in 2000.

##### **Keywords:**

report, gender equity,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Ching, C., Kafai, Y., & Marshall, S. (2000)**

**Spaces for change: Gender and technology access in collaborative software design**

*Journal of Science Education and Technology*, 9(1), 67–78

**Synopsis:**

Concerns about boys in the discussions about gender equity were not the same between Australia and the U.K. There were various indicators used to establish gender inequality. There was disagreement about what types of reforms promote gender equity.

**Keywords:**

journal, academia, cooperation, game design, gender equity, children

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Committee on Maximizing the Potential of Women in Academic Science and Engineering, National Academy of Sciences, National Academy of Engineering, and Institute of Medicine (2007)**

**Beyond Bias and Barriers: Fulfilling the Potential of Women in Academic Science and Engineering**

*The National Academies Press*

**Synopsis:**

A national report on women in science and engineering with recommendations for action.

**Keywords:**

academia, book, gender equity, workforce, it careers, working conditions

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Daniels, H., Creese, A., Hey, V., Leonard, D., Smith, M. (2001)**

**Gender and learning: equity, equality and pedagogy**

*Support for Learning*, 16 (3), 112–116

**Synopsis:**

Suggests that boys experience a contradiction between the cultural messages and practices associated with masculinity (competition and individuality) and the teaching practices typical of successful primary schooling (collaboration and codependency).

**Keywords:**

journal, learning, classroom, gender equity, learning process

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---



---

**Denner, Jill, Steve Bean, and Linda Werner (2005)**

**Girls Creating Games: Challenging Existing Assumptions about Game Content**

*DIGRA conference, Vancouver, Canada*

**Synopsis:**

Describes the content of 45 games that were designed and programmed by middle school girls in order to determine what girls like about games and gaming.

**Keywords:**

case study, conference, middle school, girls designing games, gender inclusive, storytelling, cooperation, gender stereotypes, gender equity

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Fullerton, Tracy, Fron, Janine and Pearce, Celia (2008)**

**A Game of One's Own: Towards a New Gendered Poetics of Digital Space**

*The Fibreculture Journal*, issue 11

**Synopsis:**

An argument for a new poetics of game space that is more egalitarian and draws on a wider range of spatial and cognitive models.

**Keywords:**

academia, journal article, MMO, player types, motivations, pink games, what women want, game design, competition, storytelling, empowerment, femininity, the Sims

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Furger, Roberta (1998)**

**Does Jane Compute?: Preserving Our Daughters' Place in the Cyber Revolution**

*Grand Central Publishing: New York*

**Synopsis:**

The gender gap in the IT workplace can be reduced by introducing flexible schedules, and training for workers who temporarily leave and need to catch up again, to accommodate work/family balance. Women seem to have a more difficult time advancing to management and leadership positions.

**Keywords:**

academia, book, gender equity, empowerment, IT careers

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Ruberg, Bonnie (2008)**

**Women in Games: The Gamasutra 20**

*Gamasutra, May 21*

**Synopsis:**

The first Gamasutra list of Top 20 women working in the video game industry in 2008.

**Keywords:**

Industry, media-press, work force, game industry, gender equity, IT careers

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Sanders, J., & Stone, A. (1986)**

**The neuter computer: Computers for girls and boys**

*New York: Neal-Schuman*

**Synopsis:**

A book on differences between boys' and girls' access to computers and how to make it more equal.

**Keywords:**

book, gender equity

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Schiebinger, Londa (Ed.) (2008)**

**Gendered Innovations in Science and Engineering**

*Stanford University Press*

**Synopsis:**

A book of edited papers by prominent scholars on research and design projects that were influenced by gender analysis.

**Keywords:**

Academia, Book, IT Careers, workforce, working conditions, gender theories, gender equity, psychology

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Sevo, Ruta (2008)**

**Momox 10 x 10 Recommendation List**

*momox.org*

**Synopsis:**

A list of about 100 recommended resources on the issue of women in science and engineering.

**Keywords:**

blog, workforce, it careers, girls designing games, working conditions, computer skills, classroom context, gender equity, self-efficacy

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Sevo, Ruta and Daryl Chubin (2008)**

**Bias Literacy: Review of concepts in research on discrimination**

*momox.org*

**Synopsis:**

Ninety percent of adolescents thought that technology is cool and regularly used it to chat. Only 28% of adolescent girls contemplated a career in technology compared with 52% of boys. Industry needs to show adolescents that not everyone working in technology is an engineer and that companies need

**Keywords:**

literature review, academia, workforce, IT careers, working conditions, gender equity, harassment, gender stereotypes

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Streitmatter, J. (1994)**

**Toward Gender Equity in the Classroom: Everyday Teachers' Beliefs and Practices**

*SUNY Press*

**Synopsis:**

Presents various aspects and considerations of gender equity in classroom teaching through conversations with and observations of eight teachers.

**Keywords:**

book, academia, gender equity, case study, gender stereotypes, classroom

**Full Text:** No | **Abstract:** Yes | **Highlights:** Yes

---

**Taylor, T. L. (2008)****Becoming a Player: Networks, Structure and Imagined Futures**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press*

**Synopsis:**

Summarize findings on girls' interactions with computers and discovers how girls generate views and knowledge that are both personally meaningful and useful. Provides practical considerations for classroom use of technology.

**Keywords:**

book, chapter, editorial, professional gaming, CounterStrike, gender stereotypes, gaming culture, what women want, gender identity, gender equity

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Tiltfactor (2007)****Interviews with Game Designers: Elizabeth Losh**

*valuesatplay.org*

**Synopsis:**

An interview with a game designer.

**Keywords:**

video, interview, America's Army, gender identity, gender equity, values at play, avatars

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Twentyman, Jessica (2008)****What Is It About Girls and IT?**

*Financial Times Digital Business (05/14/08)*

**Synopsis:**

Women are a "drastic minority" in science- and technology-related studies and the numbers are shrinking at every stage.

**Keywords:**

Industry, media-press, work force, programming, IT Careers, gender equity

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Yates, Lyn (1997)****Gender Equity and the Boys Debate: What Sort of Challenge Is It?**

*British Journal of Sociology of Education, Vol. 18, No. 3, pp. 337-347*

**Synopsis:**

Discussed recent concern with boys' rights and treatment in discussions about gender equity.

**Keywords:**

gender equity, Australia, academia, journal, masculinity

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

## Gender Identity (17 entries)

**Scope Definition:** *GENDER IDENTITY is about how someone assimilates and adopts masculine and feminine characteristics as defined by their society.*

**Selected highlights from the GENDER IDENTITY tag**  
(Each highlight is associated with one or more entries in the InvestiGaming collection. The authors' last name and year of publication is referenced after the highlight. Complete citations for all 17 InvestiGaming.com entries directly related to GENDER IDENTITY appear at the end of highlights.)

### Portrayal of Women in Games

■ A sample of top Nintendo and Sega Genesis games in 1995 showed that most portrayed no women at all. When they did portray women, the women's physical aspects were unrealistically sexualized and exaggerated. Often games included violent or aggressive acts toward women, for example, the abduction of the princess. 21% of the games sampled portrayed violence specifically towards women, usually in the opening sequence. (Dietz, 1998)

■ There appears to be a persistent gender gap with regard to gaming. It is due to gaps in interest and in learning of technology. Gaming is "culturally coded" male. The industry should be concerned about excluding groups, for example girls and the socio-economically disadvantaged, because gaming activities are indirect pathways to technical skills, interest in learning, and participation in social networks. "Gaming is quickly becoming a lingua franca for participation in the digital age." (Ito, 2008)

■ There appeared to be increased segregation of pro-players by sex, and more single sex teams. There were higher prize winnings for male teams. Women's competitions appeared to have a secondary status. There was a "glamorization" of women game players in the marketing and promotion of some female-only teams. (Taylor, 2008)

■ In the poetics of games, space is conceived as a domain to be conquered and a context for battle. This reflects a predominantly male sensibility. We need a "regendered" or "degendered" poetics of games that is more egalitarian

and acknowledges a wider range of spatial and cognitive preferences. (Fullerton, 2008)

■ Elizabeth Losh thinks that the game America's Army is biased toward male players. (Tiltfactor, 2007)

■ The social liberalism expressed in the Sims (acceptance of gay relationships, absence of racial stereotypes, non-sexualized presentation of women) is more an expression of Electronic Arts' interest in financial success than a conversion of political beliefs. Up to 1980, the traditional market for video games was male, especially young, white, middle-class heterosexual males. Gaming companies targeted non-traditional gamers since the mid-to-late nineties to expand their market. The Sims is an example of design and marketing to appeal to "othered" groups, placing activity in a progressive suburban society, and putting the tools of identity creation into the hands of players. The reason for such inclusion was not so much the adoption of cultural liberalism but pragmatic capitalism. (Curley, 2005)

### Players and Sexual Identity

■ The practice of switching genders in online games is not considered deviant within gaming. Swapping or switching genders has become normal in gaming. There are various speculations about why players do it. (MacCallum-Stewart, 2008)

■ Fifty-seven percent of gamers of an MMORPG had engaged in gender swapping. Over half of all males (54%) and more than two-thirds of the females (68%) swapped the gender of their game character. Female players often swapped the gender of their game character "to prevent unsolicited male approaches on her female characters." A male player said he swapped the gender of his game character because "male gamers treated him far better." (Hussain, 2008)

■ A majority of MMORPG gamers swapped the gender of their game character at least some of the time, motivated sometimes by curiosity and other times to change the play experience. (Hussain, 2008)

■ There seem to be various reasons people swap genders in online environments. The phenomenon poses a number of questions. (Suler, 2004)

■ Because there is no physical body in video games, players had to establish their sexual identity through

messaging and talk, displaying mental or social attributes. Males were challenged in that they did not have to be macho to win. Females were challenged in finding ways to express femininity in a game that features all-male characters engaged in endless violent conflict. (Alix, 2006)

■ According to Social Identity Theory (SIT), female players will choose an avatar that is similar to her and optimize social identity. However, given descriptions of different gaming situations, the study found that female players designed an avatar that best meets the game requirements (male, female, neutral) rather than one most like her. (Reinecke, 2007)

■ Expertise in game playing is developed within the dynamics and context of in- and out-of-school interactions. Avid players showed more expertise and special cognitive capabilities of gamers. Differences among players were determined more by experience rather than gender. Female identity was strengthened in girls succeeding in a majority male forum, as they saw themselves as expert and special as girls, with a sense of achievement, respect, and recognition. (Beavis, 2005)

### **Characteristics of Male or Female Game Players**

■ One in five gamers of an MMORPG preferred socializing online over offline. (Hussain, 2008)

■ Significantly more men than women players of an MMORPG found it easier to converse online. (Hussain, 2008)

■ Males played MMORPG online nearly 7 times per week compared to females who played 5 times per week. (Hussain, 2008)

■ Male players of an MMO (Everquest II) played for achievement whereas female players played for social interaction. (Williams, 2009)

■ Male players of an MMO (Everquest II) were more aggressive players, especially within romantic relationships where both partners play. (Williams, 2009)

■ Females were 10% of Everquest II (an MMO) players. (Williams, 2009)

■ Female players of an MMO (Everquest II) spend more time playing, and played more characters, than male players. (Williams, 2009)

■ Female players of an MMO (Everquest II) were more than twice as likely to be playing with a romantic partner. (Williams, 2009)

■ Female players of an MMO (Everquest II) playing with a romantic partner (62% of female players) had the following characteristics: older, made less money, played more hours per week, exercised more, had lower BMI, had more characters, reported higher relationship quality and enjoyed the game more. (Williams, 2009)

■ Female players of an MMO (Everquest II) were healthier than male players or females in the general population. (Williams, 2009)

■ Female players were more aggressive, by personality, than female non-players but they were similar in gender identity, degree of sex role stereotyping, or acceptance of sexual violence. Game players perceived their online environment as less friendly, but they experienced less sexual harassment online than non-players. Game players were less likely to be in computer-related employment. Women with high-masculine identities were more likely to use computers at work. (Norris, 2004)

### **Games Can Appeal to Girls**

■ Click! Urban Adventure is a narrative-based game designed to allow girls to learn science and technology content through stories and role-playing, because the integration of personal identity makes the content more appealing and interesting. (Nguyen, 2005)

■ Girls wanted to see programs designed “by and for them.” The findings laid the groundwork for the creation of the new program STUDIO 2BSM, and will help professionals who work with girls. (Girl Scouts of the USA, 2003)

■ Adolescent girls have a common set of behavioral strategies to deal with middle school, which they try as circumstances demand. The strategies include: expressing opinions (“speaking out”), performing well in school (“do school”), and moving between

cultures (“crossing borders”). New school reforms such as team teaching and cooperative learning, especially when they address gender issues, improve girls’ success. Matching students with caring adults and addressing real student problems helps both boys and girls. (American Association of University Women, 1996)

---

#### **Alix, Avery (2006)**

##### **Beyond Sp34king L33t: How ‘Net Gladiators Discursively Construct Gendered Identity**

*International Communication Association, Dresden International Congress Centre, Dresden, Germany*

##### **Synopsis:**

A case study of the game Counter-Strike looking at player interactions, especially conversations and messages that convey sexual identity and establish relationships between the sexes.

##### **Keywords:**

case study, gender identity, internet use, CounterStrike, gaming culture, masculinity, femininity

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

#### **American Association of University Women (AAUW) (1996)**

##### **Girls in the Middle: Working to Succeed in School**

*American Association of University Women Educational Foundation: Washington, D.C.*

##### **Synopsis:**

A report of a study and video on the behavior of adolescent girls.

##### **Keywords:**

academia, report, middle school, gender identity, classroom, parents and gaming, family dynamics

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

#### **Beavis, Catherine (2005)**

##### **Pretty good for a girl: gender, identity and computer games**

*DIGRA conference*

##### **Synopsis:**

Studied the sexual dynamics expressed by two groups: teenagers in an English curriculum classroom playing three games and female teens of South East Asian background in a LAN cafe who formed a Counterstrike clan.

##### **Keywords:**

gender identity, case study, conference, gaming social context, South East Asia, learning, Counterstrike, high school, competition

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

#### **Curlew, A. B. (2005)**

##### **Liberal Sims?: Simulated Difference and the Commodity of Social Diversity**

*DIGRA conference, Vancouver, Canada*

##### **Synopsis:**

An analysis of different social groups – female, male, gay, racial or ethnic minority—playing The Sims and how the product is marketed to these groups.

##### **Keywords:**

conference, avatars, ethnicity, the sims, gender identity

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

#### **Deitz, T. L. (1998)**

##### **An examination of violence and gender role portrayals in video games: Implications for gender socialization and aggressive behavior**

*Sex Roles, 38, 425-442*

##### **Synopsis:**

The project analyzed the content of popular video games for their presentation of gender roles and violent themes.

##### **Keywords:**

survey, journal, violence, aggression, gender stereotypes, children, gender identity

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes



---

**Fullerton, Tracy, Fron, Janine and Pearce, Celia (2008)****A Game of One's Own: Towards a New Gendered Poetics of Digital Space***The Fibreculture Journal, issue 11***Synopsis:**

An argument for a new poetics of game space that is more egalitarian and draws on a wider range of spatial and cognitive models.

**Keywords:**

academia, journal article, MMO, player types, motivations, pink games, what women want, game design, competition, storytelling, empowerment, femininity, the Sims

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Girl Scouts of the USA (2003)****The Ten Emerging Truths: New Directions for Girls 11-17: Executive Summary***New York, NY: Girls Scouts of the USA***Synopsis:**

Through surveys and personal interviews, girls' hopes, dreams, fears, interests, self-images, and visions for an ideal program designed "by and for them" are explored. Implications are made for adults working with preteen and teenage girls in the Girl Scout program settings.

**Keywords:**

report, learning, what women want, gender identity

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Hussain, Zaheer and Mark Griffiths (2008)****Gender Swapping and Socializing in Cyberspace: An Exploratory Study***CyberPsychology & Behavior. February 1, 2008, 11(1): 47-53. doi:10.1089/cpb.2007.0020.***Synopsis:**

An online survey of 119 people (83 males and 32 females), ages 18-69, mostly American (73%) about their behavior playing massively multiplayer online role-playing games (MMORPGs), especially regarding gender swapping.

**Keywords:**

survey, journal, MMO, psychology, sexuality, gender identity, avatars

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Ito, Mizuko and Matteo Bittanti (2008)****Final Report: Gaming**

*in Hanging Out, Messing Around, Geeking Out: Living and Learning with New Media, part of "Kids' Informal Learning with Digital Media: An Ethnographic Investigation of Innovative Knowledge Cultures," funded by the John D. and Catherine T. MacArthur Foundation.*

**Synopsis:**

A discussion of different genres of gaming practices and the discourses that create boundaries between different forms of game play in terms of learning and development.

**Keywords:**

academia, chapter, children high school, gaming social context, gaming culture, gender identity, co play, empowerment, friendship

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**MacCallum-Stewart, Esther (2008)****Real Boys Carry Girly Epics: Normalising Gender Bending in Online Games***Journal for Computer Game Culture. 2 (1), p.27-40***Synopsis:**

Observations about the practice of choosing the opposite gender in selection of an avatar in online games.

**Keywords:**

academia, journal, editorial, gender identity, sexuality

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Nguyen, S., & Hughes, K. (2005)****Designing Selfhood: Incorporating Science and Technology into the Female Identity Through Narrative Immersion and Role-Playing***In Nordic Design Research Proceedings. Copenhagen, Denmark***Synopsis:**

Describes the game "Click! Urban Adventure" which is a collaborative, cross-disciplinary project intended to incorporate lifelong interest in science and technology to pre-adolescent and early adolescent girls.

**Keywords:**

conference, case study, educational games, game design, middle school, IT careers, gender identity, storytelling

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Norris, Kamala (2004)****Gender Stereotypes, Aggression, and Computer Games: An Online Survey of Women***CyberPsychology & Behavior. 2004, 7(6): 714-727***Synopsis:**

An online survey of women who played computer games and women who used computers but did not play games, about gender identity and aggressive personality.

**Keywords:**

Journal, gender stereotypes, harassment, gender identity, IT careers, gender inclusive, aggression

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Reinecke, Leonard and Treppe, Sabine (2007)****Creating Virtual Alter Egos? Psychological Processes Underlying the Choice of Avatar Features in Com***International Communication Association Conference, San Francisco***Synopsis:**

A study of how female players chose and designed avatars.

**Keywords:**

case study, report, gender identity, avatars, psychology

**Full Text:** No | **Abstract:** Yes | **Highlights:** Yes

---

**Suler, J.R. (2004)****Do Boys (and Girls) Just Wanna Have Fun? Gender-Switching in Cyberspace***In Gender Communication (by A. Kunkel). Kendall/Hunt Publishing***Synopsis:**

A speculation as to why men or women swap genders.

**Keywords:**

case study, gender identity, MMO, psychology, femininity, masculinity, sexuality, gaming culture

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Taylor, T. L. (2008)****Becoming a Player: Networks, Structure and Imagined Futures***in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press***Synopsis:**

Summarize findings on girls' interactions with computers and discovers how girls generate views and knowledge that are both personally meaningful and useful. Provides practical considerations for classroom use of technology.

**Keywords:**

book, chapter, editorial, professional gaming, CounterStrike, gender stereotypes, gaming culture, what women want, gender identity, gender equity

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Tiltfactor (2007)****Interviews with Game Designers: Elizabeth Losh***valuesatplay.org***Synopsis:**

An interview with a game designer.

**Keywords:**

video, interview, America's Army, gender identity, gender equity, values at play, avatars

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Williams, Dimitri, Mia Consalvo, Scott Caplan, and Nick Yee (2009)****Looking for gender (LFG): Gender roles and behaviors among online gamers***Journal of Communication***Synopsis:**

A survey of 7,129 Everquest II players is combined with in-game observations to examine gender differences in play motivations and lifestyle.

**Keywords:**

academia, journal, survey, gender theories, gender identity, motivations, gaming social context, genre MMO, sexuality, aggression

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

## Gender Inclusive (16 entries)

**Scope Definition:** *GENDER INCLUSIVE means that a game or program is designed to appeal to both boys and girls.*

**Selected highlights from the GENDER INCLUSIVE tag** (Each highlight is associated with one or more entries in the investiGaming collection. The authors' last name and year of publication is referenced after the highlight. Complete citations for all 16 investiGaming.com entries directly related to GENDER INCLUSIVE appear at the end of highlights.)

### Appealing to Both Sexes

■ The game industry cannot continue to grow unless it taps new markets, especially women. By understanding differences between men and women, the industry can apply the knowledge to traditional genres and tap the future market. (Ray, 2003)

■ Japanese gaming culture has produced highly successful games that cross gender boundaries. Japanese games such as Pac Man, Donkey Kong, Dig Dug and Parappa the Rapper provided alternatives to shooting, fighting, and racing as idioms for game play. Japanese games have produced girl-friendly cute characters derived from Japanese animation. The example of the character Pikachu in Pokemon demonstrates a cute and relatively non-violent play idiom appealing to both boys and girls. Girls are strongly present in Japanese gaming culture now. (Ito, 2008)

■ A new computer and information literacy course that used a gender-inclusive approach reduced differences in knowledge between girls and boys, and reduced but did not remove differences in attitudes about gender. The course without a gender-inclusive approach actually increased differences in attitudes between boys and girls. (Volman, 1997)

■ We don't worry about women participating in the web any more, but we still worry about two things: whether girls do and can and should play computer games and the fact that women are still not adequately represented in fields that design digital technology. (Jenkins, 2008)

■ Sheri Graner Ray offers insights about the state of

women in the gaming industry, how to make games appeal to women, better ways to market games to women, her research about play and games, and her book Gender Inclusive Game Design. (Bedigian, 2004)

### Games Are Still Biased Toward Males

■ Game worlds are still largely about epic struggles and portray women in stereotypes, in spite of the arrival and ubiquitous use of games like Second Life and Sims2 that are gender-neutral. (Brunner, 2008)

■ The games industry is still focused on its first targetcustomer: a 23-year-old, single, male technophile. All gamers, male and female, liked four kinds of fun: the fun of mastery, curiosity, better thinking or behavior, and socializing with friends. The top 20 best-selling games in 2005 still use four basic scenarios (fighting, war-strategy, sports, and racing). Women were not looking for an "easier time" or games for women. Both genders liked a challenge but women dislike violence. The industry has an opportunity for a wider market by engaging more emotion, reducing violence, and increasing fun. (Lazzaro, 2008)

■ Games are significant in forming children's attitudes toward computers and enabling learning. However, games currently appeal largely to boys. A few games designed for girls exploit typical stereotypes such as interest in fashion, dating, and personality tests. We need more research on the influence of gender in the experience of technology, criteria for gender-equitable electronic environments, and approaches that engage both boys and girls. (Bennett, 2000)

### Differences Between the Sexes in Design Preferences

■ Games designed by middle school girls had a prominent theme of expressing and working through fears and social issues in their stories. The girls tended to use bright, vivid colors. Their stories took place in real world settings. Their stories involved moral decisions. They rarely used violent feedback. They used games to play with gender stereotypes, challenging authority, using humor. (Denner, 2005)

■ Middle school boys overwhelmingly picked games that involved fighting. Girls overwhelmingly ranked fighting games as their least favorite. When placed in the role of game designer, girls consciously designed games for both male and female players. Boys designed only for

other boys. Boys' game ideas liberally borrowed from a successful commercial game. Many factors besides gender influence how games are designed: context, the content, the game genre, game goals, the age of the designers, and the sex of the designer. (Heeter, 2009)

■ There were gender differences in the selection of stereotyped presentations of a computer-based problem. Boys significantly preferred the Pirates (male) stereotype. Girls equally preferred Honeybears (gender neutral), Pirates (male), and Princesses (female). Stereotypes embedded in problem solving did provoke different responses to the software in boys and girls. (Joiner, 1998)

■ Presented with a neutral or androgynous character in educational software, primary school children tended to identify them as male, but girls were more willing to see them as female. (Bradshaw, 1995)

■ In debugging spreadsheets, female programmers had lower self-efficacy (a form of confidence) than males. The level of self-efficacy of the programmer was predictive of effectiveness in debugging in the case of women but not men. Females were less likely than males to accept a new debugging feature. There are enhancements to debugging software that would improve the productivity of female end-user programmers: provide additional help features, offer a Skill Builder or Wizard, and expand explanations about the debug feature. (Beckwith, 2005)

### Characteristics of Players

■ Female players of MMORPGs were seeking social interaction, mastery and status, participation in teams, and exploration. Female players were not an anomaly; they are enjoying gaming. (Taylor, 2003)

---

**Beckwith, L. Sorte, S., Burnett, M., Wiedenbeck, S., Chintakovid, T., and Cook, C. (2005)**

### Designing features for both genders in end-user software engineering environments

*IEEE Symposium on Visual Languages and Human-Centric Computing, 153-160.*

#### Synopsis:

Discusses features of end-user programming environments that need to be adapted in order to make female end-users more productive in solving problems.

#### Keywords:

gender inclusive, book, game design

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Bedigian, Louis (2004)**

### Game Designer Sheri Graner Ray Talks to GameZone about Quality, the Industry, and the Changes that need to be made

*gamezone.com*

#### Synopsis:

An interview with Sheri Graner Ray about the Women's Game Conference, her career, and her thoughts on the industry.

#### Keywords:

industry, media-press, interview, game design, gender inclusive

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Bennett, D., & Brunner, C. (2000)**

### The role of gender in the design of electronic learning environments for children

*Tech Learning's Well-connected Educator Journal, 21*

#### Synopsis:

A discussion of the potential for designing electronic learning and gaming environments for children, especially appealing to girls.

#### Keywords:

journal, educational games, pink games, gender equity, gender inclusive

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Bradshaw, J., Clegg, S., & Trayhurn D. (1995)****An investigation into gender bias in educational software used in English primary schools***Gender and Education, 7(2), 167–175***Synopsis:**

A study of whether primary school boys and girls presented with a genderless or androgynous character will assign a gender.

**Keywords:**

journal, gender stereotypes, avatars, gender identity, gender inclusive,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Brunner, Corneila (2008)****Games and Technological Desire: Another Decade**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press*

**Synopsis:**

The paper considers whether the past decade of tremendous change in our uses of technology is also reflected in the evolution of game worlds toward gender-neutral environments.

**Keywords:**

book, chapter, gender stereotypes, gender inclusive, masculinity, femininity, what women want, what men want, IT careers

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Denner, Jill, Steve Bean, and Linda Werner (2005)****Girls Creating Games: Challenging Existing Assumptions about Game Content***DIGRA conference, Vancouver, Canada***Synopsis:**

Describes the content of 45 games that were designed and programmed by middle school girls in order to determine what girls like about games and gaming.

**Keywords:**

case study, conference, middle school, girls designing games, gender inclusive, storytelling, cooperation, gender stereotypes, gender equity

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Falstein, N. (1997)****The geekier sex***The Inspiracy***Synopsis:**

A speculation on why there aren't more games available for girls and women.

**Keywords:**

blog, editorial, pink games, gender inclusive, player types

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Heeter, Carrie, Egidio, Rhonda, Mishra, Punya, Winn, Brian and Winn, Jillian (2009)****Alien Games: Do girls prefer games designed by girls?***Games and Culture, Vol. 4, No. 1, 74-100***Synopsis:**

A three year study, with a content analysis of games envisioned by 5th and 8th graders, followed by a survey of students in the same age range reacting to video promos representing these envisioned games.

**Keywords:**

academia, journal, game design, survey, experiment, children middle school, girls designing games, gender inclusive, violence, avatars, humor, npcs, storytelling, genre educational games, Halo

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Ito, Mimi (2008)****Gender Dynamics of the Japanese Media Mix**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press*

**Synopsis:**

A description of Japanese gaming culture and trends.

**Keywords:**

book, chapter, Japan, gaming culture, gender inclusive, player type, Pokemon, npcs, media literacy

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Jenkins, Henry and Cassell, Justine (2008)**
**From Quake Grrls to Desperate Housewives: A Decade of Gender and Computer Games-**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press*

**Synopsis:**

A paper on women's participation in computer games.

**Keywords:**

book, chapter, gender stereotypes, what women want, game industry, The Sims, genre casual games, genre educational games, gender inclusive, Desperate Housewives

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Joiner, R. (1998)**
**The effect of gender on children's software preferences**

*Journal of Computer Assisted Learning 14 (3), 195–198*

**Synopsis:**

Sixteen boys and girls were shown stereotyped versions of a computer-based problem to study gender differences.

**Keywords:**

journal, academia, children, gender inclusive, gender stereotypes

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Keave, Vincent (2008)**
**The Perspectives of Tracy J. Butler**

*escapistmagazine.com*

**Synopsis:**

An interview with Tracy J. Butler, the creator of web comic Lackadaisy and a 3-D artist for online MMOGs, about the industry.

**Keywords:**

Industry, media-press, interview, game industry, workforce, working conditions, IT careers, what women want, gender inclusive

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Lazzaro, Nicole (2008)**
**Are Boy Games Necessary?**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press, 2008*

**Synopsis:**

A field study of 30 adults about their experiences playing favorite games, including observations and interviews with friends and family.

**Keywords:**

book, chapter, what women want, what men want, case study, gaming culture, gaming social context, gender inclusive, player types, motivations, player demographics

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Ray, Sheri Graner (2003)**
**Gender inclusive game design: Expanding the market**

*Hingham, MA: Charles River Media*

**Synopsis:**

Papers explore aspects of computer gaming, e.g. the differences in reward systems, game play preferences, and avatar selection criteria, and how these issues all apply to game design, looking at how games can be designed to appeal to women.

**Keywords:**

book, game design, gender inclusive, avatars, motivations, what women want

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Taylor, T. L. (2003)**
**Multiple Pleasures: Women and Online Gaming**

*Convergence: The Journal of Research into New Media Technologies, v9 no 1, 21-46*

**Synopsis:**

Discussion of female players of MMORPGs based on interviews and ethnographic data.

**Keywords:**

journal, MMO, gaming social context, gaming culture, motivations, what women want, gender inclusive, aggression

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Volman, Monique (1997)**

**Gender-related effects of computer and information literacy education**

*Journal of Curriculum Studies, Volume 29, Issue 3 May 1997, pages 315 - 328*

**Synopsis:**

Describes the impact of a new computer and information literacy course on school students in the Netherlands.

**Keywords:**

journal, Netherlands, classroom, gender inclusive, gender theories, case study, computer skills, learning process, media literacy

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes



## Gender Stereotypes (32 entries)

**Scope Definition:** *GENDER STEREOTYPES is to conceive or treat someone based on a conventional, formulaic, oversimplified and exaggerated image like a caricature, often negative.*

**Selected highlights from the GENDER STEREOTYPES tag** (Each highlight is associated with one or more entries in the InvestiGaming collection. The authors' last name and year of publication is referenced after the highlight. Complete citations for all 32 InvestiGaming.com entries directly related to GENDER STEREOTYPES appear at the end of highlights.)

### The Game Industry Has a Stereotypical View of Players

■ The popular stereotype of the game player as an antisocial male teenager no longer holds; there is increasing evidence of females playing games. Our notion of "who is the player" needs greater depth and consideration of everyday leisure contexts. (Bryce, 2002)

■ A team developing computer games was found to have no clear age in mind for their target player, but they were unconsciously targeting males. Designers assumed that female players needed "special" themes, while male players wanted "normal" themes. Game designers said they begin game design by thinking of a plot that is interesting to the player, but they never asked potential players and mainly imagine what players want. (John, 2006)

■ Research on "what girls like best" in gaming has stalled in thinking, drawing from the early work of Cassell and Jenkins. A gamut of gender stereotypes have become canonical in the field, re-instated by Sheri Graner-Ray. Games studies research on "what girls like best" needs to be re-thought drawing on broader approaches to gender and socio-cultural studies, or else the research will further legitimate inequalities and stereotypes. (Jensen, 2007)

■ The games industry has approached the female market three ways: hoping women will adapt to existing styles, designing games especially for girls and women, and modifying existing games to make them "transgender." The second approach – giving girls what they want, such

as non-violent activities that build relationships and resolve conflicts – has been highly successful, seen in *The Sims* and *There*. Unfortunately, the approach still tends to rely on stereotypes of women. The third approach is attempted in the game *Neverwinter Nights*. An analysis of *Neverwinter Nights* found that despite the inclusion of features to add feminine appeal and a rejection of gender difference, it is strongly stereotypical with regard to women and heteronormative, that is, conforming to a heterosexual view of relationships in the characters, the story and the game environments. (Corneliussen, 2006)

■ Educators designing software for girls tended to design "learning tools." When they designed software for boys or students (gender neutral), they tended to design "games." Their notions of the potential user resulted in sex-stereotyped software. (Huff, 1997)

■ According to web pages that emerged in late 1997 and early 1998, there was a culture of female gamers that questioned the assumptions of researchers about girls. Called "game girls," they did not feel left out of gaming and wish for their own world of games, as researchers thought. They tended to be older and more confident than the "girls" described in research. They liked competition and enjoyed fighting games. They questioned stereotypes both in existing games and in the work of researchers talking about girls. (Jenkins, 1998)

■ It is possible to do socially positive work in the business of developing new media such as games, multimedia, and virtual reality, as well as make money. The founder of Purple Moon and employee of Interval Research Corporation tells how. (Laurel, 2001)

■ Society is positioning women as consumers rather than creators of technology. (Witkowski, 2006)

■ Female players were more aggressive, by personality, than female non-players but they were similar in gender identity, degree of sex role stereotyping, or acceptance of sexual violence. Game players perceived their online environment as less friendly, but they experienced less sexual harassment online than non-players. Game players were less likely to be in computer-related employment. Women with high-masculine identities were more likely to use computers at work. (Norris, 2004)

### **Game Designers Reinforce Stereotypes in Designing Characters**

■ Game designers working on a male character aimed to represent “the average guy” based on photographs, anatomically correct in proportion. Game designers designing a female character did not use photos as they do in designing male characters, because photos were not “sexy” enough; they used images from the internet and the female character was not anatomically correct. Game designers need to be made aware of unconscious choices in designing characters, to avoid unconscious sexism. (John, 2006)

■ Video game characters potentially shape players’ perceptions of gender roles through indirect messages. Players learn societal expectations of appearance, behavior, and roles for men and women. In a content analysis of 49 articles in video game magazine articles, male characters were more likely to be heroes and main characters, use more weapons, have more abilities, and be more muscular and powerful. Females were more often supplemental characters, more attractive, sexy, and innocent, and wear more revealing clothing. (Miller, 2007)

### **How Players Respond to Avatars and Characters in Games**

■ A majority of both men and women chose female avatars with exaggerated sexual features and did not consider them abnormal. However, clothes made a big difference. Both men and women preferred female avatars that are dressed modestly and show less skin. Avatars representing negative stereotypes of women were shunned and those representing positive stereotypes were preferred. (Larsson, 2005)

■ Presented with a neutral or androgynous character in educational software, primary school children tended to identify them as male, but girls were more willing to see them as female. (Bradshaw, 1995)

■ People playing a trivia game with a cartoon-computer-character attributed more competence and conformity to the computer-character if it was male-like, they were working in text only, and they were doing multiple tasks simultaneously. The advantages of the male cartoon-computer-character over the female cartoon-character disappeared if the trivia game used

speech output, which demanded more processing attention on the part of the player. (Lee, 2008)

■ Girls reported less experience in using computers in school. There were no differences between girls and boys playing games. Boys were significantly more likely than girls to own computers and use computers more frequently outside of school. Boys and girls equally used computers outside of school for word processing. There were significant differences between boys and girls in attitudes: boys were more positive and boys endorsed sex-stereotypical views. Older students of both sexes reported less enthusiasm for computers. The youngest students reported the most use outside school. Older girls were significantly less likely to endorse sex-stereotypical views than their male peers. (Durndell, 1995)

### **Games Can Be Designed to Challenge Stereotypes**

■ There is increasing evidence of women playing games. The trend in this use of leisure offers potential for using gaming as an activity that can be used to challenge stereotypes of women. (Bryce, 2003)

■ Game worlds are still largely about epic struggles and portray women in stereotypes, in spite of the arrival and ubiquitous use of games like *Second Life* and *Sims2* that are gender-neutral. (Brunner, 2008)

■ Games designed by middle school girls had a prominent theme of expressing and working through fears and social issues in their stories. The girls tended to use bright, vivid colors. Their stories took place in real world settings. Their stories involved moral decisions. They rarely used violent feedback. They used games to play with gender stereotypes, challenging authority, using humor. (Denner, 2005)

### **The Industry Needs to Serve Girls & Build the Skills of Everyone**

■ Games are significant in forming children’s attitudes toward computers and enabling learning. However, games currently appeal largely to boys. A few games designed for girls exploit typical stereotypes such as interest in fashion, dating, and personality tests. We need more research on the influence of gender in the experience of technology,

criteria for gender-equitable electronic environments, and approaches that engage both boys and girls. (Bennett, 2000)

■ Far more boys than girls played video games. Boys' early and sustained experience with gaming gave them an advantage in building competence and confidence with computers. Computer-based media is increasingly important for learning and work, and games are being enlisted for educational purposes. The participation of girls is thus all the more important and educational games need to take into account girls' perspectives and preferences. (de Castell, 2006)

■ Girls had little awareness of careers in IT, low interest in computers, no connection to information networks about IT, perceived that the computer is a toy, perceived that IT is not creative work, didn't identify with IT professionals, and experienced teachers as lacking literacy and confidence. (Witkowski, 2006)

■ Training involving play with action video games may increase interest in information technology. (Feng, 2006)

■ We don't worry about women participating in the web any more, but we still worry about two things: whether girls do and can and should play computer games and the fact that women are still not adequately represented in fields that design digital technology. (Jenkins, 2008)

■ There is research evidence for discrimination that partly explains the lower percentages of women and minorities in science and engineering. (Sevo, 2008)

■ The digital divide between men and women can be overcome using a wide range of approaches based on social psychological theories, including changing family dynamics, interactions between students and teachers, and the organizations of schools. (Cooper, 2003)

### **Boys and Girls: The Same or Different?**

■ Male vervet monkeys tend to prefer what we consider boys' toys, for example, toy cars and diggers. The researcher conjectures that learned preferences for play toys have some basis in biological predisposition. (Callaway, 2008)

■ Female and male college students having the same computer experience had similar computer aptitude

and self-efficacy (a form of confidence). Attitudes toward computers differed based on sex, especially high masculinity, and some types of computer experience. (Ogletree, 1990)

### **Stereotyping in Society Generally**

■ Job applicants with masculine voices were rated as more competent than applicants with feminine voices, regardless of their actual gender and regardless of information in their resume. A feminine voice was perceived as babyish and triggered stronger stereotypes. The warmth of a job applicant was rated on the basis of the resume. An applicant with a feminine resume was rated as warmer than one having a masculine resume. Warmth is stereotyped positively for females and negatively for males, and is associated with a caring, friendly personality. Competence is stereotyped positively for males and is associated with intelligence and motivation. (Sei Jin Ko, 2009)

■ The tendency to project stereotypes on others has different motivations: the goal of comprehension (understanding others) and the goal of self-enhancement (building yourself up). When the motive is comprehension, people apply positive and negative stereotypes. When the motive is self-enhancement, or building the self up, people apply negative stereotypes on others, and not positive ones. We can reduce the need to put others down with negative stereotypes by getting people to understand that it is not justified, and get them to focus on positive aspects of themselves. (Van Den Bos, 2009)

■ In a study of recall of sex-stereotyped toy pictures, males and females had similar memory and recall. Males and females remembered an equal number of objects. Everyone recalled more static toy pictures than dynamic ones. Older subjects recalled more objects than younger subjects. The study found no cognitive sex differences in memory tasks that required the recall of sex-stereotyped toy pictures. (Cherney, 2001)

■ Women primed for a mental rotation test got lower scores, indicating that the process of priming activated a stereotype of deficiency. Priming of men did not yield a difference in scores. (Ortner, 2008)

---

**Bennett, D., & Brunner, C. (2000)****The role of gender in the design of electronic learning environments for children***Tech Learning's Well-connected Educator Journal, 21***Synopsis:**

A discussion of the potential for designing electronic learning and gaming environments for children, especially appealing to girls.

**Keywords:**

journal, educational games, pink games, gender equity, gender inclusive

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Bradshaw, J., Clegg, S., & Trayhurn D. (1995)****An investigation into gender bias in educational software used in English primary schools***Gender and Education, 7(2), 167–175***Synopsis:**

A study of whether primary school boys and girls presented with a genderless or androgynous character will assign a gender.

**Keywords:**

journal, gender stereotypes, avatars, gender identity, gender inclusive,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Brunner, Cornelia (2008)****Games and Technological Desire: Another Decade**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press*

**Synopsis:**

The paper considers whether the past decade of tremendous change in our uses of technology is also reflected in the evolution of game worlds toward gender-neutral environments.

**Keywords:**

book, chapter, gender stereotypes, gender inclusive, masculinity, femininity, what women want, what men want, IT careers

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Bryce Jo, Rutter Jason (2002)****Killing Like a Girl: Gendered Gaming and Girl Gamers' Visibility***DIGRA conference 2002***Synopsis:**

Examines the relationship between gaming and gender.

**Keywords:**

conference, gender stereotypes, violence, sexuality, avatars, game industry

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Bryce, Jo and Rutter, Jason (2003)****Gender dynamics and the social and spatial organization of computer gaming***Leisure Studies, Volume 22, Issue 1 June 2003, pages 1 - 15***Synopsis:**

Looks broadly at computer games as a leisure activity for women.

**Keywords:**

journal, gaming social context, gaming culture, gender stereotypes

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Callaway, Ewen (2008)****Male monkeys prefer boys' toys***New Scientist, April 4***Synopsis:**

A study of male monkeys and their preferences for toys.

**Keywords:**

academia, journal, toys, gender stereotypes

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Cherney, Isabelle Denise (2001)****Gender-linked differences in the development of incidental and intentional memory for static and dynamic stimuli***dissertation, University of Nebraska - Lincoln***Synopsis:**

A study involving 160 children between ages 5 and 13, and adults, to study whether there are gender differences in memory, especially recall of sex-stereotyped toy pictures.

**Keywords:**

academia, case study, gender stereotypes, brain research, toys

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Cooper, Joel and Weaver, Kimberlee (2003)****Gender and Computers Understanding the Digital Divide,***Lawrence Erlbaum: Philadelphia***Synopsis:**

Presents evidence showing that girls and young women are being left behind on the road to information technology, and provides guideposts to overcoming this problem.

**Keywords:**

book, digital divide, IT careers, psychology, parents and gaming, learning, gender stereotypes

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Corneliussen, H. and Mortensen, T. (2006)****The Non-sense of Women in Neverwinter Nights***Women in Games. Conference Proceedings 2006, University of Abertay Press. ISBN 189979618-5.***Synopsis:**

An analysis of the game Neverwinter Nights which was modified in order to appeal to women.

**Keywords:**

conference, editorial, Neverwinter Nights, avatars, sexuality, gender stereotypes

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**De Angeli, A. and Brahnam, S. (2006)****Sex Stereotypes and Conversational Agents**

*In Proc. of Gender and Interaction, Real and Virtual Women in a Male World Workshop. Discussion of conversational agents in computer environments and the way people interact with them.*

**Keywords:**

conference, experiment, avatars, harassment, aggression, gender stereotypes

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**de Castell, S.& Jenson, J. (2006)****You're Going to Die: Gender, Performance and Digital Gameplay**

*Proceeding (528) Computers and Advanced Technology in Education*

**Synopsis:**

Reports on findings from a three-year, Canadian federally funded research project entitled "Education, Gender and Gaming" that examined why far more boys than girls play video games.

**Keywords:**

case study, conference, Canada, gender stereotypes, gaming culture, educational games, learning outcome

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Deitz, T. L. (1998)****An examination of violence and gender role portrayals in video games: Implications for gender socialization and aggressive behavior**

*Sex Roles, 38, 425-442*

**Synopsis:**

The project analyzed the content of popular video games for their presentation of gender roles and violent themes.

**Keywords:**

survey, journal, violence, aggression, gender stereotypes, children, gender identity

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Denner, Jill, Steve Bean, and Linda Werner (2005)****Girls Creating Games: Challenging Existing Assumptions about Game Content***DIGRA conference, Vancouver, Canada***Synopsis:**

Describes the content of 45 games that were designed and programmed by middle school girls in order to determine what girls like about games and gaming.

**Keywords:**

case study, conference, middle school, girls designing games, gender inclusive, storytelling, cooperation, gender stereotypes, gender equity

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Durndell, Alan, Glissov, Peter, and Gerda Siann (1995)****Gender and computing: persisting differences***Educational Research, 37(3), 219-227***Synopsis:**

Students (429) in five Scottish secondary schools (first, third, and sixth years) were studied regarding their experience with computers and their attitudes. A subsample of 196 was further analyzed.

**Keywords:**

journal, survey, Scotland, computer skills, gender stereotypes, children middle school

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Feng, J. and Spence, I. (2006)****Closing the Gender Gap by Training using Action Video Games***from Proceedings (525) Education and Technology***Synopsis:**

The project studied whether giving women and girls training involving play with action video games increased their interest in information and communication technology tasks.

**Keywords:**

journal, IT careers, gender stereotypes, gaming culture

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Huff, C., & Cooper, J. (1987)****Sex bias in educational software: The effects of designers' stereotypes on the software they design***Journal of Applied Social Psychology, 17, 519-532***Synopsis:**

Forty-three educators with programming experience designed software for either boys, girls, or students to study whether their expectations of the target player made a difference in what they designed.

**Keywords:**

journal, psychology, gender stereotypes, educational games, learning, gaming culture, game design

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Jenkins, Henry (1998)****Voices from the Combat Zone: Game Grrlz Talk Back***In From Barbie to Mortal Kombat: Gender and Computer Games, Justine Cassell and Henry Jenkins, Eds., MIT Press***Synopsis:**

A snapshot of the emerging subculture of female gamers from web pages in late 1997 and early 1998, called game girls.

**Keywords:**

book, chapter, Quake, pink games, gender stereotypes, editorial

**Full Text:** No | **Abstract:** Yes | **Highlights:** Yes

---

**Jenkins, Henry and Cassell, Justine (2008)****From Quake Grrlz to Desperate Housewives: A Decade of Gender and Computer Games***in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press***Synopsis:**

A paper on women's participation in computer games.

**Keywords:**

book, chapter, gender stereotypes, what women want, game industry, The Sims, genre casual games, genre educational games, gender inclusive, Desperate Housewives

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes



---

**Jenson, Jennifer; Suzanne de Castell (2007)****Girls and Gaming: Gender Research, “Progress” and the Death of Interpretation***DIGRA conference 2007***Synopsis:**

Discusses the research on “what girls like best” and shifts in thinking.

**Keywords:**

conference, gaming culture, gender stereotypes, what women want, game design

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**John, Sara (2006)****Un/Realistically Embodied: The Gendered Conceptions of Realistic Game Design***Gender and Interaction: Real and Virtual Women in a male world***Synopsis:**

A team developing computer games was studied for insight into their decisions, especially concerning gender and the creation of avatars.

**Keywords:**

case study, conference, gender stereotypes, avatars, NPCs, game industry, sexuality, game design, England

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Larsson, Anna and Nerén, Carina (2005)****Gender Aspects on Computer Game Avatars***SICS Technical Report T2005:06***Synopsis:**

A study of the characteristics of female avatars, stereotypes of women, and how men and women relate to hyper-sexualized avatars.

**Keywords:**

report, academia, sexuality, avatars, what women want, what men want, gender stereotypes

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Laurel, Brenda (2001)****The Utopian Entrepreneur***Cambridge: MIT Press***Synopsis:**

A book about the business of developing new media products.

**Keywords:**

book, game industry, what women want, game design, pink games, gender stereotypes

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Lee, Eun-Ju (2008)****Gender Stereotyping of Computers: Resource Depletion or Reduced Attention?***Journal of Communication***Synopsis:**

A study posed computers as male or female characters/social actors, and studied whether people responded to them differently depending on the gender.

**Keywords:**

Academia, experiment, journal, gender identity, NPCs, trivia games

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Miller, M.K. and Summers, A. (2007)****Gender differences in video game characters’ roles, appearances, and attire as portrayed in video game magazines***Sex Roles, v57, 733-742, 2007***Synopsis:**

A content analysis of 49 articles in video game magazines, coding 115 characters, to study gender roles.

**Keywords:**

journal, avatars, sexuality, gaming culture, fandom, gender stereotypes

**Full Text:** No | **Abstract:** Yes | **Highlights:** Yes

---



---

**Mou, Yi; Peng, Wei (2009)****Gender and Racial Stereotypes in Popular Video Games***Handbook of Research on Effective Electronic Gaming in Education***Synopsis:**

A review of studies of gender and racial stereotypes in portrayals of characters in video games and a content analysis of 19 popular video games.

**Keywords:**

academia, book, chapter, gender stereotypes, psychology, NPCs, avatars, ethnicity

**Full Text:** No | **Abstract:** Yes

---

**Norris, Kamala (2004)****Gender Stereotypes, Aggression, and Computer Games: An Online Survey of Women***CyberPsychology & Behavior*. 2004, 7(6): 714-727,**Synopsis:**

An online survey of women who played computer games and women who used computers but did not play games, about gender identity and aggressive personality.

**Keywords:**

Journal, gender stereotypes, harassment, gender identity, IT careers, gender inclusive, aggression

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Ogletree, S. M., & Williams, S. W. (1990)****Sex and sex-typing effects on computer attitudes and aptitude***Sex Roles*, 23, 703-712**Synopsis:**

A study of 125 college students about the relationships between sex, computer experience, computer attitudes, self-efficacy (a form of confidence), and computer aptitude.

**Keywords:**

journal, psychology, gender\_stereotypes, self\_efficacy, masculinity

**Full Text:** No | **Abstract:** Yes | **Highlights:** Yes

---

---

**Ortner, Tuulia M. and Monika Sieverding (2008)****Where are the Gender Differences? Male Priming Boosts Spatial Skills in Women***Sex Roles Volume 59, Numbers 3-4***Synopsis:**

Using a sample of 161 men and women (mean age=31.90) from Austria, the study looks at the effect of gender stereotype activation by priming the subjects for a spatial relations test.

**Keywords:**

Academia, Experiment, journal article, Austria, Gender theories, spatial cognition, gender stereotypes, psychology

**Full Text:** No | **Abstract:** Yes | **Highlights:** Yes

---

**Sei Jin Ko; Judd, Charles M.; Stapel, Diederik A. (2009)****Stereotyping Based on Voice in the Presence of Individuating Information: Vocal Femininity Affects Perceived Competence but Not Warmth***Personality And Social Psychology Bulletin*, vol. 35, no. 2, pp. 198-211, February**Synopsis:**

An examination of whether people judge a job applicant's competence and warmth on the basis of vocal cues.

**Keywords:**

academia, experiment, journal, stereotypes, game design, NPCs

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Sevo, Ruta and Daryl Chubin (2008)****Bias Literacy: Review of concepts in research on discrimination***momox.org***Synopsis:**

Ninety percent of adolescents thought that technology is cool and regularly used it to chat. Only 28% of adolescent girls contemplated a career in technology compared with 52% of boys. Industry needs to show adolescents that not everyone working in technology is an engineer and that companies need

**Keywords:**

literature review, academia, workforce, IT careers, working conditions, gender equity, harassment, gender stereotypes

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Van Den Bos, Arne and Stapel, Diederik A. (2009)****Why People Stereotype Affects How They Stereotype: The Differential Influence of Comprehension Goals and Self-Enhancement Goals on Stereotyping**

*Personality And Social Psychology Bulletin*, vol. 35, no. 1, pp. 101-113, January

**Synopsis:**

Studies whether a person's motivation determines how they apply stereotypes.

**Keywords:**

academia, experiment, journal, stereotypes

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Witkowski, Emma (2006)****Soft Reboot: A report on Young Women and Computer Technology in Denmark**

*EDU-ART*

**Synopsis:**

Young women in Danish schools between the ages of 13 and 19, teachers, and computer technology laboratory leaders were interviewed about computer technology.

**Keywords:**

Denmark, case study, gender stereotypes, computer skills, IT careers, gaming culture, empowerment, self efficacy, high school, media literacy

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

## Gender Theories (9 entries)

**Scope Definition:** *GENDER THEORIES* refers to explanations for why and how societies construct their ideas of masculinity and femininity, and how sexual identity affects behavior.

**Selected highlights from the GENDER THEORIES tag**  
(Each highlight is associated with one or more entries in the investiGaming collection. The authors' last name and year of publication is referenced after the highlight. Complete citations for all 9 investiGaming.com entries directly related to GENDER THEORIES appear at the end of highlights.)

### Gaming Behavior and Gender

■ High-feminine 15- and 16-year-old girls preferred web sites with strong graphics and multimedia design over content (Agosto, 2004)

■ Male players of an MMO (Everquest II) played for achievement whereas female players played for social interaction. (Williams, 2009)

■ Male players of an MMO (Everquest II) were more aggressive than female players, especially within romantic relationships where both partners play. (Williams, 2009)

■ Females comprised 10% of Everquest II (an MMO) players. (Williams, 2009)

■ Female players of an MMO (Everquest II) spent more time playing, and played as more different characters, than male players. (Williams, 2009)

■ Female players of an MMO (Everquest II) were more than twice as likely to be playing with a romantic partner. (Williams, 2009)

■ Female players of an MMO (Everquest II) playing with a romantic partner (62% of female players) had the following characteristics: older, made less money, played more hours per week, exercised more, had lower BMI, had more characters, reported higher relationship quality and enjoyed the game more than female players who were not playing with a romantic partner. (Williams, 2009)

■ Female players of an MMO (Everquest II) were healthier than male players or females in the general population. (Williams, 2009)

### Gaming Experience and Sexual Identity

■ Two popular games (Final Fantasy and The Sims) implicitly constructed sexuality that was heterosexual and presumed that the gamer was a heterosexual male. In the author's opinion, they failed to deny the existence of gay and lesbian characters and this resulted in gender and sexual confusion. (Consalvo, 2001)

### Attitudes Toward Computers and Sex

■ Adolescent boys and girls who were general computer users tended to have the same range of attitudes toward computers. There were no significant differences in their attitudes. (Devlin, 1991)

■ Adolescent male programmers had more positive attitudes toward computers than adolescent female programmers. (Devlin, 1991)

### Factoring Gender in Research and Design

■ Researchers in fields such as physics and astronomy, stem cell research, car design, genetics, archaeology and geographic information systems found new results when they factored gender into their analysis. (Schiebinger, 2008)

### Effects of Mixed Teams

■ Working with someone of the opposite sex on a collaborative task increased feminine qualities in both men and women, as reported by the participants. (Pickard, 2003)

### Stereotypes and Test Performance

■ Women primed for a mental rotation test got lower scores. Priming of men did not yield a difference in scores. (Ortner, 2008)

---

**Agosto, Denise (2004)**

**Using Gender Schema Theory to Examine Gender Equity in Computing: A Preliminary Study**

*Journal of Women and Minorities in Science and Engineering*, vol. 10:1, 18

**Synopsis:**

The study looked at preferences for website design versus content of eleven 14- and 15-year olds.

**Keywords:**

journal, case study, gender theories, computer skills, middle school, gender equity

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Alexander, G. & Hines, M. (1994)**

**Gender labels and play styles: Their relative contribution to children's selection of playmates**

*Child Development*, 65(3) 869-879

**Synopsis:**

A study of 60 children between the ages of 4 and 8 years in an elementary school, interviewed to study their preferences for the gender of playmates and preferences for gendered play styles.

**Keywords:**

journal, gender theories, co play,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Braidotti, R. (1996)**

**Cyberfeminism with a difference**

*University of Utrecht: Netherlands*

**Synopsis:**

The author explores many topics related to post-modern thought and feminism.

**Keywords:**

academia, gender theories, feminism, Netherlands,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Consalvo, Mia (2001)**

**Hot Dates and Fairy-Tale Romances: Studying Sexuality in Videogames**

*Paper presented at Playing with the Future, Manchester, UK.*

**Synopsis:**

Using a case study approach, the author examines Final Fantasy IX for the Playstation and The Sims for Mac/PC for representations of characters and plot offered, and their gameplay.

**Keywords:**

conference, United Kingdom, sexuality, femininity, gender stereotypes, case study, Final Fantasy IX, The Sims, gender theories, masculinity

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Devlin, Steven James (1991)**

**Sex differences among computer programmers, computer application users and general computer users at the secondary school level: An investigation of sex role self-concept and attitudes toward computers**

*Dissertation at Temple University, Snelbecker, Glenn*

**Synopsis:**

The attitudes of 462 high school students from six public high schools in Philadelphia were assessed using Loyd's Computer Attitude Scale. These students' sex role self-concept was also assessed using the BEM Sex-Role Inventory.

**Keywords:**

academia, report, masculinity, femininity, gender theories, high sch.

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Ortner, Tuulia M. and Monika Sieverding (2008)****Where are the Gender Differences? Male Priming Boosts Spatial Skills in Women***Sex Roles Volume 59, Numbers 3-4***Synopsis:**

Using a sample of 161 men and women (mean age=31.90) from Austria, the study looks at the effect of gender stereotype activation by priming the subjects for a spatial relations test.

**Keywords:**

Academia, Experiment, journal article, Austria, Gender theories, spatial cognition, gender stereotypes, psychology

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Pickard, Jennifer and Strough, JoNell (2003)****The Effects of Same-Sex and Other-Sex Contexts on Masculinity and Femininity***Sex Roles, v48 issue 9-10 pp 421-432***Synopsis:**

Eighty college students (40 women and 40 men, median age = 19.5 years) worked with a man and a woman on a collaborative task to see if their gender-typed behaviors changed with the sex of the team mate.

**Keywords:**

femininity, Masculinity, gender theories, psychology, academia, journal, gender stereotypes, adult younger

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Schiebinger, Londa (Ed.) (2008)****Gendered Innovations in Science and Engineering***Stanford University Press***Synopsis:**

A book of edited papers by prominent scholars on research and design projects that were influenced by gender analysis.

**Keywords:**

Academia, Book, IT Careers, workforce, working conditions, gender theories, gender equity, psychology

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Williams, Dimitri, Mia Consalvo, Scott Caplan, and Nick Yee (2009)****Looking for gender (LFG): Gender roles and behaviors among online gamers***Journal of Communication***Synopsis:**

A survey of 7,129 Everquest II players is combined with in-game observations to examine gender differences in play motivations and lifestyle.

**Keywords:**

academia, journal, survey, gender theories, gender identity, motivations, gaming social context, genre MMO, sexuality, aggression

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

## Genre MMO (16)

**Selected highlights from the GENRE MMO tag**  
*(Each highlight is associated with one or more entries in the investiGaming collection. The authors' last name and year of publication is referenced after the highlight. Complete citations for all 16 investiGaming.com entries directly related to GENRE MMO appear at the end of highlights.)*

### Who Plays MMOs?

■ More females MMO players played with a romantic partner (62%). (Williams, 2009; Yee 2008, Yee, 2006)

■ MMO players playing with a romantic partner were more likely to be female, were older, made less money, played more hours per week, exercised more, had lower BMI, had more characters, reported higher relationship quality and enjoyed the game more. (Williams, 2009)

■ 26.9% of female players (n= 420) were introduced to the game by their romantic partner (boy/girlfriend, fiancée, or husband/wife). (Yee, 2006)

■ 13% of female players were homemakers (13.3%, n = 438) (Yee, 2006)

■ A majority of MMO players were not teenagers. (Yee, 2006)

### Gender Swapping

■ For Chinese culture, male players with female avatars and faking their gender were seen as problematic. This also put pressure on female players because anyone with a female avatar would be questioned for their true gender. (Wu, 2007)

■ Female players playing as male avatars did not receive the same kind of hostility. (Wu, 2007)

■ Within Chinese MMO, in-game marriages reinforced heteronormative traditions. (Wu, 2007)

■ Results revealed that the majority of gamers (57%) had gender swapped their game character. This included over half of all males (54%) and more than two-thirds of females (68%). This finding was significant ( $X^2[4] = 18.16$ ,  $p < 0.001$ ; odds ratio = 2.1). (Hussain, 2008)

■ Significantly more females than males had gender swapped their character. This can be explained by the reasons provided by Participant 39 (Extract 22), who gender swapped in order to prevent unsolicited male approaches on her female characters. (Hussain, 2008)

■ Players in female avatars (whether male or female) frequently report sexual harassment. (Fullerton, 2008)

### Gender and Motivations to Play MMOs

■ Female players derived pleasure from the highly social environment within an MMO. The games provided a sense of community and social structure not seen in other games. (Taylor, 2003)

■ What makes MUDs and MMOGs compelling (character development, immersive worlds, strong community building tools, and functionality), could be fairly gender-neutral. (Taylor, 2003)

■ Female players prefer to relate to other players, while male players prefer to work together to achieve goals. (Yee, 2006)

■ Motivations for playing between males and females were extremely different. (Yee, 2006)

■ Males were more motivated to play MMOs for Achievements than females, while female players are more motivated by Social Relationships and Immersion than males. (Yee, 2006)

■ As T.L. Taylor's research showed, many women who play the over-sexualized, underdressed avatars in MMOs would prefer to have a less excessively endowed character if given the choice (Fullerton, 2008)

■ A key pleasure for women in MMOs is exploration (Fullerton, 2008)

■ In spite of their apparent inclusiveness, there are other implicit and explicit demarcations that bar women from the videogame playground, and can sometimes take the form of blatant player discrimination. Another is mechanics, which disproportionately reward combat activities; another may be the linear achievement model of success. (Fullerton, 2008)

### The Social Contexts of MMO Play

■ Social context constrains how game are played, what game is played and who it is played with. Most women are introduced to an MMO through a romantic partner or family member. (Yee, 2008)

■ Men are allowed relatively free access to online games, but a woman's presence in an online game was seen as legitimate only if it occurred via a relationship with a man. (Yee, 2008)

■ Women were more likely to be playing with someone else in the same room than males. Men were more likely to be playing alone. (Yee, 2008)

■ Almost two-thirds of gamers (63%) said online gaming did not satisfy their social needs. However, 28% said online gaming satisfied their social needs that were not satisfied in the real world. The reasons for this were varied based on situations like being mobile or far from home. (Hussain, 2008)

■ The physical space where people play MMOs affects who can play and for how long. Games played on high-end PCs with internet access bars access for many demographics. (Lin, 2008)

■ Public Cyber Cafes facilitated access for young males to play MMOs but are unwelcoming or even dangerous to females. (Lin, 2008)

■ Parents and later, college roommates discouraged young women in Taiwan from "wasting" their time gaming and potentially being inconsiderate, noisy or visually distracting in a shared home or dorm. (Lin, 2008)

■ Most Taiwanese women only have access to a high-end computer at home which they have to share with siblings and obey parental restrictions. (Lin, 2008)

---

### Bedigian, Louis (2004)

#### Load, Cock, Fire: MMOG Researcher Constance A. Steinkuehler Shares Her Opinions

*gamezone.com*

##### Synopsis:

An Interview with Constance A. Steinkuehler where she shares some of what she has learned through cognitive theory studies of MMO players.

##### Keywords:

industry, media-press, interview, game design, MMO,

**Full Text:** Yes | **Abstract:** Yes

---

### Fullerton, Tracy, Fron, Janine and Pearce, Celia (2008)

#### A Game of One's Own: Towards a New Gendered Poetics of Digital Space

*The Fibreculture Journal, issue 11*

##### Synopsis:

An argument for a new poetics of game space that is more egalitarian and draws on a wider range of spatial and cognitive models.

##### Keywords:

academia, journal article, MMO, player types, motivations, pink games, what women want, game design, competition, storytelling, empowerment, femininity, the Sims

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

### Hussain, Zaheer and Mark Griffiths (2008)

#### Gender Swapping and Socializing in Cyberspace: An Exploratory Study

*CyberPsychology & Behavior. February 1, 2008, 11(1): 47-53. doi:10.1089/cpb.2007.0020.*

##### Synopsis:

An online survey of 119 people (83 males and 32 females), ages 18-69, mostly American (73%) about their behavior playing massively multiplayer online role-playing games (MMORPGs), especially regarding gender swapping.

##### Keywords:

survey, journal, MMO, psychology, sexuality, gender identity, avatars

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes



---

**Lin, Holin (2008)****Body, Space and Gendered Gaming Experiences: A Cultural Geography of Homes, Dormitories and Cybercafes**

*Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing*, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press

**Synopsis:**

A social study of female players in Taiwan incorporated field notes from observations at sixteen Internet cafes, interviews with 43 individual game players and nine focus groups, and the author's personal observations from over 500 hours of online gaming.

**Keywords:**

book, chapter, case study, Taiwan, MMO, gaming social context, gaming culture, family dynamics

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Osborne, Tamsin (2008)****The virtual battle of the sexes**

*BBC News, December 23*

**Synopsis:**

A study of differences between 2,400 male and female players of EverQuest II.

**Keywords:**

academia, industry, survey, play data, media-press, player demographics, genre MMO, gaming social context, motivations, sexuality

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Samyn, Michaël (2007)****Tale of Tales Interviews with Celia Pearce**

*tale-of-theses.com*

**Synopsis:**

Transcript of an email interview with Celia Pearce about her design process and research on MMO games.

**Keywords:**

interview, MMO, game design, motivations

**Full Text:** Yes | **Abstract:** Yes

---

**Taylor, T. L. (2003)****Multiple Pleasures: Women and Online Gaming.**

*Convergence: The Journal of Research into New Media Technologies*, v9 no 1, 21-46

**Synopsis:**

Discussion of female players of MMORPGs based on interviews and ethnographic data.

**Keywords:**

journal, MMO, gaming social context, gaming culture, motivations, what women want, gender inclusive, aggression

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Tiltfactor (2007)****Interviews with Game Designers: Michael Nitsche**

*valuesatplay.org*

**Synopsis:**

A short online video of an interview with Game Designer Michael Nitsche. He covers briefly layers of values and user generated values within game customization.

**Keywords:**

video, interview, values at play, Fable, game design, Sim City, Grand Theft Auto, Second Life, MMO

**Full Text:** Yes | **Abstract:** Yes

---

**Tiltfactor (2007)****Interviews with Game Designers: Celia Pearce**

*valuesatplay.org*

**Synopsis:**

A short online video of an interview with Game Designer Celia Pearce specifically about values at play.

**Keywords:**

video, interview, values at play, MMO

**Full Text:** Yes | **Abstract:** Yes

---

**Williams, Dimitri, Mia Consalvo, Scott Caplan, and Nick Yee (2009)**

**Looking for gender (LFG): Gender roles and behaviors among online gamers**

*Journal of Communication*

**Synopsis:**

A survey of 7,129 Everquest II players is combined with in-game observations to examine gender differences in play motivations and lifestyle.

**Keywords:**

academia, journal, survey, gender theories, gender identity, motivations, gaming social context, genre MMO, sexuality, aggression

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Wu, Weihua (2007)**

**Beyond Virtual Carnival and Masquerade: In-Game Marriage on the Chinese Internet**

*Games and Culture, Vol. 2, No. 1, 59-89*

**Synopsis:**

A study based on observations and interviews with MMO-players in China. The study was to investigate the phenomenon of gender-swapping and in-game marriages as social commentary.

**Keywords:**

journal, case study, sexuality, avatars, MMO, gender theories, China

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Yee, Nicholas (2006)**

**The Psychology of Massively Multi-User Online Role-Playing Games: Motivations, Emotional Investment, Relationships and Problematic Usage**

*In R. Schroeder & A. Axelsson (Eds.), Avatars at Work and Play: Collaboration and Interaction in Shared Virtual Environments (pp. 187-207). London: Springer-Verlag*

**Synopsis:**

Online surveys about the mental processes of MMO players were conducted between the years 2000 and 2003 with 30,000 MMO players by linking from web portals that catered to MMO players from the more popular game series.

**Keywords:**

Book, chapter, psychology, motivations, MMO, addiction, avatars, survey, player demographics

**Full Text:** Yes | **Abstract:** Yes

---

**Yee, Nicholas (2006)**

**The Demographics, Motivations, and Derived Experiences of Users of Massively Multi-User Online Graphical Environments**

*Presence: Teleoperators and Virtual Environments, 15, 309-329.*

**Synopsis:**

Online surveys were conducted with 30,000 online MMO players over a three year period to explore player demographics, motivations, and derived experiences.

**Keywords:**

journal, survey, MMO, player demographics, motivations,

**Full Text:** Yes | **Abstract:** Yes

---

**Yee, Nick (2008)**

**Maps of Digital Desires: Exploring The Topography of Gender and Play in Online Games**

*In Beyond Barbie and Mortal Kombat: New perspectives on gender and gaming, Kafai, Y, Heeter, C., Denner, J. and Sun, J., eds. MIT Press*

**Synopsis:**

Multiple Surveys with data from 2,000 to 4,000 MMO players are combined with in-game observation to study various hypotheses about the dynamics of gender, play, and relationships in MMOs.

**Keywords:**

book, chapter, survey, player demographics, MMO, player types, what women want, what men want, co play, gaming social context

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

## Genre Educational Games (16)

### Selected highlights from the GENRE EDUCATIONAL GAMES tag

*(Each highlight is associated with one or more entries in the investiGaming collection. The authors' last name and year of publication is referenced after the highlight. Complete citations for all 16 investiGaming.com entries directly related to GENRE EDUCATIONAL GAMES appear at the end of highlights.)*

#### Gender and Gaming Preferences

■ Gaming preferences are dynamic (they change over time and context) but in order to embrace a complex and unfamiliar genre, 9-13 year old female players needed a motivating catalyst or transitional support. (Carr, 2005)

■ Distinctions in taste between male and female players reflect patterns in games access and consumption that spring from (very) gendered cultural and social practices. (Carr, 2005)

■ To attribute gaming tastes directly, solely or primarily to an individual subjects' gender, is to risk underestimating the complexities of both subjectivity and preference. (Carr, 2005)

■ Gaming preferences are dynamic and contextual; they depend on where we are, what we know, who we know, what we've tried, and what we've grown tired of. (Carr, 2005)

■ Girls have an interest in electronic games and enjoy playing, particularly when given the opportunity to socially interact with others. (Inkpen, 1994)

■ Girls prefer playing digital games on computers rather than video game systems. (Inkpen, 1994)

#### Game Designer Gender and Target Audience Gender Impact Design

■ Software that educators designed for girls were more likely to be classifiable as "learning tools," whereas programs for both boys and students were most like "games." (Huff, 1987)

■ When placed in the role of game designers, 5th and 8th grade girls consciously designed their games with both male and female players in mind, while boys designed only for other boys. (Heeter, 2009)

■ Game designers' gender influenced the design outcome of games. (Heeter, 2009)

■ Girls expected they would find the girl-designed games significantly more fun to play than the boy-designed games while boys imagined the boy-designed games would be significantly more fun to play than the girl-designed games. (Heeter, 2009)

#### Gender and Gaming and Technology Expertise

■ Boys' early and sustained experience with gaming places them at an advantage over girls with respect to computer competence and confidence. Educational deployment of game-based learning threatens to compound and intensify girls' disadvantage. (de Castell, 2006 - You're Going to Die).

■ Click!, a narrative based game for girls, was developed to encourage girls to personally appropriate science and technology content through role-playing. Click! sought to influence development of girls' personal identity to be favorable towards science and technology. (Nguyen, 2005; Hughes, 2008)

■ On a learning game prototype, girls were harder to engage and motivate in games than boys are (Heeter 2005).

■ On a learning game prototype, girls took more time to figure out how to play games and play slower than boys do (Heeter 2005).

#### Game Characters and Gender

■ Of the 43 educational software programs for young children that were studied, 20 presented only male main characters, 18 included both male and female main characters, and 5 contained only female main characters. (Sheldon, 2004)

■ Slightly more female main characters presented in educational software for young children exhibit counter stereotyped behavior than the male characters that were presented, yet were more gender-stereotyped in appearance. (Sheldon, 2004)

■ Games offering a female avatar were neither more nor less appealing to 13-year-old girls playing games at an all-girl school. (Carr, 2005)

### **Educational Game Design for Female Players**

■ Playtesting a learning game separately with males and females revealed ways early prototypes failed to engage female players, and facilitated revisions and iterations to strengthen the appeal and playability for middle school girls. (Heeter, 2005; Winn 2006/2007)

■ Female college students took more time to figure out how to play two unfamiliar prototype learning games, played more slowly, and made more errors than male college students. (Heeter 2005; Winn 2006/2007).

■ A game which give players the freedom to engage in speedy play but also offer enticing possibilities of exploration allow for masculine and feminine play styles and should suit males and females better than a game that forces players into a play style inconsistent with their preferred ways of playing.(Heeter, 2008)

■ In the context of a learning game, rewarding speedyplay caused both boys and girls to make more mistakes and it caused girls to play faster than they naturally would. (Heeter, 2008)

■ Educational game design and the way a teacher structures in-class educational game play both influence emergent play and learning. (Heeter, 2008)

---

### **Bennett, D., & Brunner, C. (2000)**

#### **The role of gender in the design of electronic learning environments for children**

*Tech Learning's Well-connected Educator Journal*, 21

#### **Synopsis:**

A discussion of the potential for designing electronic learning and gaming environments for children, especially appealing to girls.

#### **Keywords:**

journal, educational games, pink games, gender equity, gender inclusive

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

### **Biraimah, K. (1993)**

#### **The non-neutrality of educational computer software**

*Computers and Education*, 20(4), 283–290

#### **Synopsis:**

Discusses bias in educational computer software and analyzes how gender, ethnicity, and the global perspective are portrayed in educational computer software.

#### **Keywords:**

journal, academia, educational games, ethnicity,

**Full Text:** No | **Abstract:** Yes

---

### **Carr, Diane (2005)**

#### **Contexts, pleasures and preferences: girls playing computer games**

*DIGRA conference, Vancouver, Canada*

#### **Synopsis:**

A study of eight girls, 9 to 13 years old, who were members of a lunchtime gaming club at their all-girls school in South London. 55 classmates were also surveyed.

#### **Keywords:**

conference, England, what women want, educational games, game design

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

### **de Castell, S.& Jenson, J. (2006)**

#### **Ludic Epistemology? Knowledge-Representation in Game-based Learning**

*Proceeding (528) Computers and Advanced Technology in Education*

#### **Synopsis:**

Theoretical questions central to the re-mediation of educational knowledge and its representation are introduced and illustrated from the practical standpoint of developing one such educational computer game, "Contagion."

#### **Keywords:**

conference, educational games, learning process, learning

**Full Text:** Yes | **Abstract:** Yes

---

**de Castell, S. & Jenson, J. (2006)**
**You're Going to Die: Gender, Performance and Digital Gameplay**

*Proceeding (528) Computers and Advanced Technology in Education*

**Synopsis:**

Reports on findings from a three-year, Canadian federally funded research project entitled "Education, Gender and Gaming" that examined why far more boys than girls play video games.

**Keywords:**

case study, conference, Canada, gender stereotypes, gaming culture, educational games, learning outcome

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Heeter, C., B. Winn, and D. Greene (2005)**
**Theories meet realities: Designing a learning game for girls**

*Conference Proceedings of the DUX (Designing the User eXperience) conference, San Francisco, November.*

**Synopsis:**

Illustrates the process of designing the learning game, "Life Preservers," which has high fun value, great science, and great pedagogy that appeals to girls.

**Keywords:**

case study, conference, educational games, game design, learning, non gamers

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Heeter, Carrie (2009)**
**Play Styles and Learning**

*Handbook of Research on Effective Electronic Gaming in Education*

**Synopsis:**

Two studies explore the various player types found in commercial MMOs and educational games. Study 1 examined the impact of different in-game reward schemas on player types and Study 2 compared classroom play with one child per computer versus paired play of the same educational game.

**Keywords:**

book, chapter, educational games, MMO, player types, learning, learning process, motivation, co play

**Full Text:** Yes | **Abstract:** Yes

---

**Heeter, Carrie and Winn, Brian (2008)**
**Implications of Gender, Player Type and Learning Style for the Design of Games for Learning**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press*

**Synopsis:**

An experiment randomly assigned 7th graders to play one of three different versions of a learning game: one which rewards speedy play, one which rewards exploration and one with no bonus points.

**Keywords:**

book, chapter, learning, player types, educational games

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Heeter, Carrie, Egidio, Rhonda, Mishra, Punya, Winn, Brian and Winn, Jillian (2009)**
**Alien Games: Do girls prefer games designed by girls?**

*Games and Culture, Vol. 4, No. 1, 74-100*

**Synopsis:**

A three year study , with a content analysis of games envisioned by 5th and 8th graders, followed by a survey of students in the same age range reacting to video promos representing these envisioned games.

**Keywords:**

academia, journal, game design, survey, experiment, children middle school, girls designing games, gender inclusive, violence, avatars, humor, npcs, storytelling, genre educational games, Halo

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Huff, C., & Cooper, J. (1987)****Sex bias in educational software: The effects of designers' stereotypes on the software they design***Journal of Applied Social Psychology, 17, 519-532***Synopsis:**

Forty-three educators with programming experience designed software for either boys, girls, or students to study whether their expectations of the target player made a difference in what they designed.

**Keywords:**

journal, psychology, gender stereotypes, educational games, learning, gaming culture, game design

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Hughes, Kristin (2008)****Design to Promote Girls' Agency through Educational Games: The Click! Urban Adventure**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press*

**Synopsis:**

Outlines the design process of creating Click! a role-playing science adventure game for middle-school girls and exemplifies an approach for creating experiences that promote agency.

**Keywords:**

book, chapter, gender stereotypes, middle school, empowerment, educational games, Click

**Full Text:** Yes | **Abstract:** Yes

---

**Inkpen, K., Uptis, R., Klawe, M., Lawry, J., Anderson, A., Ndunda, M., et al. (1994)****We have never forgetful flowers in our garden: Girls' responses to electronic games**

*Journal of Computers in Math and Science Teaching, 13(4), 383-403*

**Synopsis:**

Studies how girls interact within a game environment, in the interactive science museum Science World BC during the summer of 1993. Part of a large-scale research project aimed at increasing the number of children who enjoy learning math concepts through games.

**Keywords:**

journal, case study, educational games, what women want, gaming social context

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Nguyen, S., & Hughes, K. (2005)****Designing Selfhood: Incorporating Science and Technology into the Female Identity Through Narrative Immersion and Role-Playing**

*In Nordic Design Research Proceedings. Copenhagen, Denmark*

**Synopsis:**

Describes the game including formative research for "Click! Urban Adventure," a collaborative, cross-disciplinary project intended to incorporate lifelong interest in science and technology for pre-adolescent and early adolescent girls.

**Keywords:**

conference, case study, educational games, game design, middle school, IT careers, gender identity, storytelling

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Sheldon, Jane (2004)****Gender Stereotypes in Educational Software for Young Children**

*Sex Roles 51 (7-8): 433-444*

**Synopsis:**

48 educational software packages for preschoolers were analyzed according to gender representations and stereotypes within the software.

**Keywords:**

journal, academia, educational games, preschool, femininity, masculinity, gender stereotypes, npcs,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Tiltfactor (2007)****Interviews with Game Designer: Afi French**

valuesatplay.org

**Synopsis:**

Describes how game stories can promote action and how children's attachment to characters affects a game's likeability.

**Keywords:**

video, interview, educational games, children, avatars, storytelling, social change games, values at play

**Full Text:** Yes | **Abstract:** Yes

---

**Winn, B. and Heeter, C. (2006/2007)****Resolving Conflicts in Educational Game Design through Playtesting**

*Innovate 3 (2).*

**Synopsis:**

Outlines the development process, using formative research to resolve conflicts within a multi-disciplinary design team engaged in creating educational game designed for 7th, 8th, and 9th grade students, where a subgoal was appealing to girls and boys.

**Keywords:**

journal, academia, educational games, game design, middle school,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes



## IT Careers (24 entries)

**Selected highlights from the IT CAREERS tag** (*Each highlight is associated with one or more entries in the investiGaming collection. The authors' last name and year of publication is referenced after the highlight. Complete citations for all 24 investiGaming.com entries directly related to IT CAREERS appear at the end of highlights.*)

### Digital Divides and Gaps

■ Schools need to provide more access to modern technologies to all groups. (Culp, 2002)

■ Girls tended to see the computer as a tool and not as a toy. (Culp, 2002)

■ Society is positioning women as consumers rather than creators of technology. (Witkowski, 2006)

■ Ninety percent of adolescents thought that technology is cool and regularly used it to chat. Only 28% of adolescent girls contemplated a career in technology compared with 52% of boys. Industry needs to show adolescents that not everyone working in technology is an engineer and that companies need project leaders and business analysts. (Twentyman, 2008)

■ Twice as many male college students as females used software to create audio or video. There were small differences in the use of podcasts and webcasts. In 2008, more than twice as many males (44.0%) as females (20.9%) reported playing online multiuser computer games. Males played online multiuser computer games more often than females – 21.1% of males played at least once a week, and only 7.1% of females did so. (Salaway, 2008)

■ Girls had little awareness of careers in IT, low interest in computers, no connection to information networks about IT, perceived that the computer is a toy, perceived that IT is not creative work, didn't identify with IT professionals and experienced teachers as lacking literacy and confidence. (Witkowski, 2006)

■ Most students, especially girls, did not imagine going into a technical career. Even girls with positive experiences with computers were not inclined to study more advanced technologies. (Kekelis, 2005)

■ When girls studied technology, they were more likely than boys to work on clerical skills which do not prepare them for advanced study in technology. (Kekelis, 2005)

■ Women imagined fantasy technology instruments as tools for human relationships (connecting people, communicating, collaborating) serving to integrate their public and private lives. Men saw new imagined machines as something that would extend their power over the physical universe, such as giving them absolute control, tremendous speed, or unlimited knowledge. (Honey, 1991)

### Encouraging Girls

■ Training involving play with action video games may increase interest in information technology. (Feng, 2006)

■ Gaming gives girls practice with digital tools, increasing comfort and basic skills, preparing them for many occupations, and connecting them to larger communities. (Hayes, 2008)

■ Girls' interest in technology was heightened by putting them in the role of computer game designer, collaborative teams, and with themes such as real-life problems, fantasy, and exploration of social identity. (Denner, 2005)

■ To increase girls' interest in computer technology as a career, introduce them to role models, female-friendly software, and computer-savvy peers in camps and workshops. (Furger, 1998)

### Low Numbers of Women in IT

■ Having more women in IT may lead to less male-focused game worlds. (Culp, 2002)

■ It was possible to reform a computer science department and significantly increase the percentage of female students, as evidenced in the case of Carnegie Mellon University. (Margolis, 2002)

■ Academia needs to eliminate gender bias in developing critical talent. A coordinated effort across public, private, and government sectors is needed to reform our education and workplace systems that discriminate and discourage women. (Committee on Maximizing the Potential of Women in Academic Science and Engineering, 2007)

■ Reasons for a “quiet exodus” of women from technology are complex. There are numbers of theories and explanations, and trends. No one reason stands out suggesting a clear solution. (Cone, 2007)

■ The gender gap in the IT workplace can be reduced by introducing flexible schedules, and training for workers who temporarily leave and need to catch up again, to accommodate work/family balance. (Lanzalotto, 2007)

■ Women seem to have a more difficult time advancing to management and leadership positions. (Lanzalotto, 2007)

■ Women are a “drastic minority” in science- and technology-related studies and the numbers are shrinking at every stage. (National Center for Women & Information Technology, 2007)

■ There is research evidence for discrimination that partly explains the lower percentages of women and minorities in science and engineering. (Sevo, 2008)

■ The Gamasutra panel had many candidates from which to choose a Top 20 list of women in the video gaming industry in 2008. (Ruberg, 2008)

■ Researchers in fields such as physics and astronomy, stem cell research, car design, genetics, archaeology and geographic information systems found new results when they factored gender into their analysis. (Schiebinger, 2008)

### **Games and Stereotypes of Women**

■ Game worlds are still largely about epic struggles and portray women in stereotypes, in spite of the arrival and ubiquitous use of games like *Second Life* and *Sims2* that are gender-neutral. (Brunner, 2008)

---

### **Brown, B.L. (2001)**

#### **Women and Minorities in High-Tech Careers.**

*Education Resources Information Center (ERIC)*

#### **Synopsis:**

Explores the reasons women and minorities are underrepresented in technology-related careers and suggests strategies that schools and teachers can use in order to attract women and minorities to high-tech careers and prepare them for work.

#### **Keywords:**

IT careers, gender stereotypes, gender equity, report, classroom context

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

### **Brunner, Corneila (2008)**

#### **Games and Technological Desire: Another Decade**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press*

#### **Synopsis:**

The paper considers whether the past decade of tremendous change in our uses of technology is also reflected in the evolution of game worlds toward gender-neutral environments.

#### **Keywords:**

book, chapter, gender stereotypes, gender inclusive, masculinity, femininity, what women want, what men want, IT careers

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Committee on Maximizing the Potential of Women in Academic Science and Engineering, National Academy of Sciences, National Academy of Engineering, and Institute of Medicine (2007)**

**Beyond Bias and Barriers: Fulfilling the Potential of Women in Academic Science and Engineering**

National Academies Press

**Synopsis:**

A national report on women in science and engineering with recommendations for action.

**Keywords:**

academia, book, gender equity, workforce, it careers, working conditions

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Cone, Edward (2007)**

**Why Do Women Leave IT?**

*CIO Insight*

**Synopsis:**

The paper observed that women are vacating technology positions at a significant rate.

**Keywords:**

report, IT careers,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Culp, Katie McMillan and Honey, M. (2002)**

**Imagining less-gendered game worlds**

*In Ghosts in the machine: Women's voices in research with technology*, Yelland, N., Rubin, A., and McWilliam, E., Eds., Peter Lang Publishing, NY, pp 33-53.

**Synopsis:**

The article speculated on what it will take to close the digital divide between men and women, building on AAUW's report Tech Savvy and other work.

**Keywords:**

book, chapter, computer skills, IT careers, what women want, media literacy

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Denner, J., Werner, L., Bean, S., & Campe, S. (2005)**

**The Girls Creating Games Program: Strategies for engaging middle school girls in information technology**

*Frontiers: A Journal of Women's Studies. Special Issue on Gender and IT*, 26(1), 90-98

**Synopsis:**

62 sixth- to eighth-grade girls were analyzed through adult observations and program leader logs and participant surveys and interviews in order to determine if the program successfully helped girls overcome the barriers to girls' active participation in information technology.

**Keywords:**

journal, academia, girls designing games, IT careers, case study, middle school

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Feng, J. and Spence, I. (2006)**

**Closing the Gender Gap by Training using Action Video Games**

*from Proceedings (525) Education and Technology*

**Synopsis:**

The project studied whether giving women and girls training involving play with action video games increased their interest in information and communication technology tasks.

**Keywords:**

journal, IT careers, gender stereotypes, gaming culture

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Furger, Roberta (1998)**

**Does Jane Compute?: Preserving Our Daughters' Place in the Cyber Revolution**

*Grand Central Publishing: New York*

**Synopsis:**

The gender gap in the IT workplace can be reduced by introducing flexible schedules, and training for workers who temporarily leave and need to catch up again, to accommodate work/family balance. Women seem to have a more difficult time advancing to management and leadership positions.

**Keywords:**

academia, book, gender equity, empowerment, IT careers

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Hayes, Elisabeth (2008)****Girls, Gaming, and Trajectories of Technological Expertise**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press*

**Synopsis:**

Discusses the claim that gaming can be a gateway to mastery of a broader range of digital tools, or trajectories of information technology expertise.

**Keywords:**

book, chapter, learning, IT careers, middle school

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Honey, M. Moeller, B., Brunner, C., Bennett, D., Clemens, P. & Hawkins, J. (1991)****Girls and Design: Exploring the Question of Technological Imagination**

*New York: Center for Children and Technology.*

**Synopsis:**

Women who are successful in technology careers said a number of experiences were encouraging: role models, support, collaboration, assignments based in real life, and play associated with math, science, and technology activities. They gained motivation especially from fathers, male peers, and male

**Keywords:**

report, IT careers, what women want,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Keave, Vincent (2008)****The Perspectives of Tracy J. Butler**

*escapistmagazine.com*

**Synopsis:**

An interview with Tracy J. Butler, the creator of web comic Lackadaisy and a 3-D artist for online MMOGs, about the industry.

**Keywords:**

industry, media-press, interview, game industry, workforce, working conditions, IT careers, what women want, gender inclusive

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Kekelis, L. (2005)****Hurdles in the pipeline: Girls and technology careers**

*Frontiers, 26(1), 99-109*

**Synopsis:**

A program introduced girls to robotics and digital animation and evaluated their attitudes.

**Keywords:**

journal, case study, IT careers, children,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Lanzalotto, Jim (2007)****How to Narrow IT's Gender Gap**

*Computerworld*

**Synopsis:**

The article discussed the low percentage of women in the information technology workforce.

**Keywords:**

media-press, IT careers, workforce, working conditions

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Margolis, J. & Fisher, A. (2002)****Unlocking the clubhouse: Women in computing**

*Boston: The MIT Press*

**Synopsis:**

The book examined many influences contributing to the gender gap in computing through interviews with 100 male and female computer science students at Carnegie Mellon University over four years.

**Keywords:**

book, IT careers, internet use, programming, gaming social context

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**National Academy of Sciences (2007)****I was wondering...Women's Adventures in Science***iwaswondering.org***Synopsis:**

Showcases the accomplishments of contemporary women in science and highlights the varied and intriguing careers of some of today's most prominent scientists. This site draws from and accompanies the publication of a ten-volume series of biographies entitled Women's Adventures in Science.

**Keywords:**

book, media-press, blog, it careers, middle school,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**National Center for Women & Information Technology (2007)****Women Lose Ground in IT, Computer Science***National Center for Women & Information Technology***Synopsis:**

Data on girls and women in computer science and IT from kindergarten to the workplace (academic and industry).

**Keywords:**

IT careers, report,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Ruberg, Bonnie (2008)****Women in Games: The Gamasutra 20***Gamasutra, May 21***Synopsis:**

The first Gamasutra list of Top 20 women working in the video game industry in 2008.

**Keywords:**

Industry, media-press, work force, game industry, gender equity, IT careers

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Salaway, Gail, Caruso, Judith, Nelson, Mark and Nicole Ellison (2008)****The ECAR study of Undergraduate students and Information Technology***educause.edu***Synopsis:**

A study looked at gender differences in the use of computers.

**Keywords:**

academia, case study, survey, IT Careers, adults younger, internet use, computer skills,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Schiebinger, Londa (Ed.) (2008)****Gendered Innovations in Science and Engineering***Stanford University Press***Synopsis:**

A book of edited papers by prominent scholars on research and design projects that were influenced by gender analysis.

**Keywords:**

Academia, Book, IT Careers, workforce, working conditions, gender theories, gender equity, psychology

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Sevo, Ruta (2008)****Momox 10 x 10 Recommendation List***momox.org***Synopsis:**

A list of about 100 recommended resources on the issue of women in science and engineering.

**Keywords:**

blog, workforce, it careers, girls designing games, working conditions, computer skills, classroom context, gender equity, self-efficacy

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Sevo, Ruta and Daryl Chubin (2008)**
**Bias Literacy: Review of concepts in research on discrimination**

*momox.org*

**Synopsis:**

Ninety percent of adolescents thought that technology is cool and regularly used it to chat. Only 28% of adolescent girls contemplated a career in technology compared with 52% of boys. Industry needs to show adolescents that not everyone working in technology is an engineer and that companies need

**Keywords:**

literature review, academia, workforce, IT careers, working conditions, gender equity, harassment, gender stereotypes

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Smith, Lola B. (2000)**
**The Socialization of Females with Regard to a Technology-Related Career: Recommendations for Change**

*Meridian: A Middle School Computer Technologies Journal*, v3 n2  
Sum 2000

**Synopsis:**

Twelve women in technology careers were interviewed about their experiences and observed, to determine what motivated them to enter the careers.

**Keywords:**

journal, it careers, case study, family dynamics, parents and gaming

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Twentyman, Jessica (2008)**
**What Is It About Girls and IT?**

*Financial Times Digital Business* (05/14/08)

**Synopsis:**

Women are a “drastic minority” in science- and technology-related studies and the numbers are shrinking at every stage.

**Keywords:**

Industry, media-press, work force, programming, IT Careers, gender equity

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Witkowski, Emma (2006)**
**Soft Reboot: A report on Young Women and Computer Technology in Denmark**

*EDU-ART*

**Synopsis:**

Young women in Danish schools between the ages of 13 and 19, teachers, and computer technology laboratory leaders were interviewed about computer technology.

**Keywords:**

Denmark, case study, gender stereotypes, computer skills, IT careers, gaming culture, empowerment, self efficacy, high school, media literacy

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

## Learning Outcomes (15)

**Selected highlights from the LEARNING OUTCOMES tag** *(Each highlight is associated with one or more entries in the investiGaming collection. The authors' last name and year of publication is referenced after the highlight. Complete citations for all 15 investiGaming.com entries directly related to LEARNING OUTCOMES appear at the end of highlights.)*

### Classroom Practices Hinder Girls

■ During small group problem solving instruction in a computer science classroom, instructors tend to “rescue” female students, while they “guide” male students causing men to learn mastery and women to lose confidence, as well as to learn to “wait to be rescued” (Kirk, 2002).

■ During whole class problem solving instruction in a computer science classroom, instructors may ask questions and call on the first student to raise their hand. However, since more women than men are contextual learners, calling on the first students to raise their hands can be a subtle way of excluding women from participation (Kirk, 2002).

### Promoting Women's Success in Computer Science

■ Since scholars have documented that violence alienates most women, instructors of computer science classes can promote women's success by, modifying common programming activities (such as hangman) into exercises that do not feature violence (Kirk, 2002).

■ To promote student engagement and success, issues more significant than gender are how the science and technology-rich classroom environment is structured, and what pedagogical practices are in place (Mayer-Smith 2000).

### Game Design and Learning

■ Educational game design and the way a teacher structures in-class educational game play both influence emergent play and learning. (Heeter, 2008)

■ A game which give players the freedom to engage in speedy play but also offer enticing possibilities of exploration allow for masculine and feminine play styles and should suit males and females better than a game that forces players into a play style inconsistent with their preferred ways of playing.(Heeter, 2008)

■ In the context of a learning game, rewarding speedyplay caused both boys and girls to make more mistakes and it caused girls to play faster than they naturally would. (Heeter, 2008)

■ Playtesting a learning game separately with males and females revealed ways early prototypes failed to engage female players, and facilitated revisions and iterations to strengthen the appeal and playability for middle school girls. (Heeter, 2005)

■ Female college students took more time to figure out how to play two unfamiliar prototype learning games, played more slowly, and made more errors than male college students. (Heeter 2005).

■ Boys' early and sustained experience with gaming places them at an advantage over girls with respect to computer competence and confidence. Educational deployment of game-based learning threatens to compound and intensify girls' disadvantage. (de Castell, 2006).

■ Players' investment in specific games, and their attitudes to themselves as successful or disinterested games players, shaped the ways in which they approached the games and used them in broader contexts of identity construction and display (Beavis, 2005).

■ Understandings drawn from the observation of successful girl gamers suggest expertise is not just a matter of specific skills, strategies and familiarity, but is more broadly located within the complex dynamics of in- and out-of-school discourses and contexts that need to be factored in to the construction of gender-equitable pedagogy and curriculum (Beavis, 2005).

### Girls Ages 11-17

■ Girls ages 11-17 typically turn to their mother when they need help with a problem (Girl Scouts of the USA, 2003).

■ Most girls ages 11-17 think there are benefits for having all girl groups since it is easier for them to relate to other girls, talk about issues they can't discuss in front of boys, be themselves, and look how they want to look (Girl Scouts of the USA, 2003).



■ Girls ages 11-17 feel as if they have more pressures or worries than boys do. They are worried about getting a reputation and feel that they have to act like someone else by doing better, acting smarter, and looking better than they do (Girl Scouts of the USA, 2003).

■ Girls ages 11-17 want to identify with adults (Girl Scouts of the USA, 2003).

### **Gaming Benefits**

■ Teens who have civic gaming experiences, such as helping or guiding other players, organizing or managing guilds, playing games that simulate government processes, or playing games that deal with social or moral issues, report much higher levels of civic and political engagement than teens who do not have these kinds of experiences (Kahne, 2008).

■ Teens who play games socially (a majority of teens) are more likely to be civically and politically engaged than teens who play games primarily alone (Kahne, 2008).

---

### **DiSalvo, Betsy J., Crowley, Kevin and Roy Norwood (2008)**

#### **Learning in Context: Digital Games and Young Black Men**

*Games and Culture 2008; 3; 131*

#### **Synopsis:**

Observations and interviews with Black American middle school boys about digital games as an informal learning experience are presented.

#### **Keywords:**

academia, journal, case study, digital divide, ethnicity, learning, middle school,

**Full Text:** No | **Abstract:** Yes

---

### **Beavis, Catherine (2005)**

#### **Pretty good for a girl: gender, identity and computer games**

*DIGRA conference*

#### **Synopsis:**

Studied the sexual dynamics expressed by two groups: teenagers in an English curriculum classroom playing three games and female teens of South East Asian background in a LAN cafe who formed a Counterstrike clan.

#### **Keywords:**

gender identity, case study, conference, gaming social context, South East Asia, learning, Counterstrike, high school, competition

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

### **Cooper, Joel and Weaver, Kimberlee (2003)**

#### **Gender and Computers Understanding the Digital Divide**

*Gender and Computers Understanding the Digital Divide, Lawrence Erlbaum: Philadelphia*

#### **Synopsis:**

Presents evidence showing that girls and young women are being left behind on the road to information technology, and provides guideposts to overcoming this problem.

#### **Keywords:**

book, digital divide, IT careers, psychology, parents and gaming, learning, gender stereotypes

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

### **de Castell, S. & Jenson, J. (2006)**

#### **Ludic Epistemology? Knowledge-Representation in Game-based Learning**

*Proceeding (528) Computers and Advanced Technology in Education*

#### **Synopsis:**

Theoretical questions central to the re-mediation of educational knowledge and its representation are introduced and illustrated from the practical standpoint of developing one such educational computer game, "Contagion."

#### **Keywords:**

conference, educational games, learning process, learning

**Full Text:** Yes | **Abstract:** Yes

---

**de Castell, S.& Jenson, J. (2006)****You're Going to Die: Gender, Performance and Digital Gameplay**

*Proceeding (528) Computers and Advanced Technology in Education*

**Synopsis:**

Reports on findings from a three-year, Canadian federally funded research project entitled "Education, Gender and Gaming" that examined why far more boys than girls play video games.

**Keywords:**

case study, conference, Canada, gender stereotypes, gaming culture, educational games, learning outcome

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Girl Scouts of the USA (2003)****The Ten Emerging Truths: New Directions for Girls 11-17: Executive Summary**

*New York, NY: Girls Scouts of the USA*

**Synopsis:**

Through surveys and personal interviews, girls' hopes, dreams, fears, interests, self-images, and visions for an ideal program designed "by and for them" are explored. Implications are made for adults working with preteen and teenage girls in the Girl Scout program settings.

**Keywords:**

report, learning, what women want, gender identity

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Hanor, J. H. (1998)****Concepts and strategies learned from girls' interaction with computers**

*Theory into Practice, 37(1), 64-72*

**Synopsis:**

Summarizes findings on girls' interactions with computers and discovers how girls generate views and knowledge that are both personally meaningful and useful. Provides practical considerations for classroom use of technology.

**Keywords:**

journal, academia, educational games, learning,

**Full Text:** Yes | **Abstract:** Yes

---

**Hayes, Elisabeth (2008)****Girls, Gaming, and Trajectories of Technological Expertise**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press*

**Synopsis:**

Discusses the claim that gaming can be a gateway to mastery of a broader range of digital tools, or trajectories of information technology expertise.

**Keywords:**

book, chapter, learning, IT careers, middle school

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Hayes, Elisabeth (2005)****Women, video gaming, & learning: Beyond stereotypes**

*TechTrends, 49(5), 23-28*

**Synopsis:**

Explores Men's and Women's preferences regarding games and gives design advice about creating educational games for women.

**Keywords:**

case study, journal, gender stereotypes, player types, self efficacy, empowerment, learning, computer skills

**Full Text:** Yes | **Abstract:** Yes

---

**Heeter, C., B. Winn, and D. Greene (2005)****Theories meet realities: Designing a learning game for girls**

*Conference Proceedings of the DUX (Designing the User eXperience) conference, San Francisco, November.*

**Synopsis:**

Illustrates the process of designing the learning game, "Life Preservers," which has high fun value, great science, and great pedagogy that appeals to girls.

**Keywords:**

case study, conference, educational games, game design, learning, non gamers

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Heeter, Carrie and Winn, Brian (2008)**
**Implications of Gender, Player Type and Learning Style for the Design of Games for Learning**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press*

**Synopsis:**

An experiment randomly assigned 7th graders to play one of three different versions of a learning game: one which rewards speedy play, one which rewards exploration and one with no bonus points.

**Keywords:**

book, chapter, learning, player types, educational games

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Kafai, Yasmin (1994)**
**Minds in Play: Computer Game Design for Children's Learning**

*Lawrence Erlbaum: Philadelphia*

**Synopsis:**

Follows a class of sixteen fourth-grade students from an inner-city public elementary school as they programmed games in Logo to teach fractions to third graders.

**Keywords:**

academia, book, children, elementary school, game design, learning

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Kahne, Joseph, Middaugh, Ellen, and Chris Evans (2008)**
**The Civic Potential of Video Games**

*digitallearning.macfound.org*

**Synopsis:**

A phone survey of 1,102 young persons in the United States aged 12 to 17 conducted by Pew Internet and American Life Project in order to explore the link between video games and civic engagement.

**Keywords:**

survey, report, high school, player demographics, game genres, digital divide, parents and gaming, gaming social context, co play, family dynamics, civic engagement, learning, Internet use

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Kirk, Mary and Zander, Carol (2002)**
**Bridging the digital divide by co-creating a collaborative computer science classroom**

*Journal of Computing Sciences in Colleges, Volume 18, Issue 2 (December 2002) Pages: 117 - 125*

**Synopsis:**

Combines the perspectives of a women's studies scholar and a computer scientists in order to attempt to bridge the disciplinary divide between computer science and women's studies.

**Keywords:**

journal, digital divide, learning, gender equity, cooperation, academia

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Mayer-Smith, Jolie, Pedretti, Erminia, and Woodrow, Janice (2000)**
**Closing of the gender gap in technology enriched science education: a case study**

*Computers & Education, v.35 n.1, p.51-63, Aug.2000*

**Synopsis:**

Four 10th grade science classes and three 11th grade physics classes were observed and interviews with two teachers and 81 students (48 females and 33 males) were conducted in order to investigate how students respond to the integration of technology with the teaching and learning of science.

**Keywords:**

journal, case study, classroom, gender inclusive

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

## Motivations (23)

**Selected highlights from the MOTIVATIONS tag**  
*(Each highlight is associated with one or more entries in the investiGaming collection. The authors' last name and year of publication is referenced after the highlight. Complete citations for all 23 investiGaming.com entries directly related to MOTIVATIONS appear at the end of highlights.)*

### Brain Research, Gaming Motivation, and Gender

- Both men and women use to a similar degree the part of the brain responsible for semantic knowledge and juxtaposition and the part involved in language processing (Brandt, 2005).
- Women activate the parts of the brain involved in language processing and working memory more than men when viewing funny cartoons (Brandt, 2005).
- Women were more likely to activate with greater intensity the part of the brain that generates gratifying feelings in response to new experiences (Brandt, 2005).
- Women appeared to have less expectation of a reward, which in this case was the punch line of the cartoon. So when they got to the joke's punch line, they were more pleased about it. That was not the case in men who seemed to "expect" the cartoons to be funny from the start (Brandt, 2005).
- During game play the portion of the brain associated with reward and addiction are more active in males than females (Hoeft, 2008).
- During game play, both males and females were motivated to succeed. However, males were a lot more motivated to succeed than females (Hoeft, 2008).
- Males have neural circuitry in their brains that makes them more liable than women to feel rewarded by a computer game and thus more motivated to continue playing the game (Hoeft, 2008).

### Within-Game Motivations

- Both males and females enjoyed four kinds of fun within games: the fun of mastery, curiosity, better thinking or behavior, and socializing with friends (Lazzaro, 2008).

- The top 20 best-selling games in 2005 still used four basic scenarios (fighting, war-strategy, sports, and racing) (Lazzaro, 2008).

- The mechanic in Diner Dash is one of helping people instead of hurting them. It also creates joy in life rather than loss of it. This makes the game very appealing to the demographic that plays casual online games (Lazzaro, 2005).

- Most people are affected by the emotional states of others, so one way to increase emotion is by including emotional in-game characters and/or the ability to play the game in a multi-player mode (Lazzaro, 2005).

- Game playing is becoming an increasingly social activity, which is what makes games appealing to more women (Osborne, 2008).

- Male users are more likely to engage in MMORPG environments to achieve objective goals, whereas female users are more likely to engage in these types of games to form relationships and become immersed in a fantasy environment (Yee, 2006).

- MMOs include many types of mechanics which allows them to appeal to diverse male and female players from many age groups (Yee, 2006).

- Male players were significantly more likely to be driven by the Achievement and Manipulation factors, while female players were significantly more likely to be driven by the Relationship factor (Yee, 2006).

### Beyond-Game Motivations

- The user's motivation to compete and their self-efficacy were positively correlated with the use of competitive game genres (Hartmann, 2003).
- 88% of players indicated they experienced stress relief from playing casual games and 74% cited mental exercise as a benefit (Popcap Games, 2006).
- When asked to choose the most important reasons for playing, 41% of players picked "stress relief/relaxation," more than twice the number (19%) who chose "entertainment" (Popcap Games, 2006).
- 27% of players said the games provided a distraction from chronic pain and/or fatigue, and 8% said they derived actual relief from chronic pain and/or fatigue (Popcap Games, 2006).

■ Female gamers were about twice as likely to be playing with someone else playing in the same room with them than male gamers (Williams, 2009).

■ Females were more than twice as likely to be playing with a romantic partner, implying an interpersonal motivation (Williams, 2009; Yee 2006).

■ Players derived meaningful relationships and salient emotional experiences, as well as real-life leadership skills from virtual MMORPG environments (Yee, 2006).

### **Male Gaming Motivations**

■ Boys (aged 12-17) at a lower education level play more standalone games, play more violent games, and display less social motivations for game-playing, than their higher educated counterparts, who played more lawn and mmorpgs for social motivations (Bijvank, 2007).

■ Lower-educated boys (ages 12-17) were most attracted by the violence in their favorite games, whereas higher-educated boys were most attracted to the games' potential for immersion (Bijvank, 2007).

■ Boys frequented arcades more often than girls (63% to 36%, respectively) (Cantrell, 2006).

■ Boys performed better at video games (in general) (65% to 38%, respectively) than girls (Cantrell, 2006).

■ The social rewards of gaming – talking about how you are doing, playing together, helping or beating each other – are less a part of the attraction for females than for males (BBFC, 2007).

■ Males are more likely to make time to play while females don't (BBFC, 2007).

■ Competitive genres are more frequently used by male than female players (Hartmann, 2003).

■ Male players have higher motivation to compete in computer games ("Wetteifermotiv") than female players (Hartmann, 2003).

■ Males reported being upset about poor scores (Morlock, 1985).

■ Men were more likely to play to win (Osborne, 2008, Williams, 2009).

■ Comparing the gender differences across the game situations showed a tendency for male players to be

receiving what they desired from the games they liked, whereas the female players were not having these desires met (Reinhard, 2007).

■ Men prefer competition gratifications and violent games (Reinhard, 2007).

■ Males were more likely to be playing alone (Williams, 2009).

### **Female Gaming Motivations**

■ Most women claim that shooter games are "fun" (Cantrell, 2006).

■ Shooter games have cool graphics and an enticing quality that somehow lures some women back but not others (Cantrell, 2006).

■ Some women who play shooter games vary in their levels of excitement and participation throughout the game while other women "stand by their friend" observing as they –their friend- plays the game (Cantrell, 2006).

■ Girls were more likely to go to the arcade in a group (Cantrell, 2006).

■ Not one female gamer played a shooter game by herself (Cantrell, 2006).

■ Girls who become keen on gaming following the example of their brothers often become 'hard core' gamers, playing games more often associated with boys (BBFC, 2007).

■ Females played less often in groups than the men (BBFC, 2007).

■ Girls and women typically play fewer games and have shorter gaming sessions than men (BBFC, 2007).

■ Females fit playing around other interests and activities (BBFC, 2007).

■ Women were not looking for an "easier time" or games for women (Lazzaro, 2008).

■ Both genders liked a challenge, but women dislike violence more so than men (Lazzaro, 2008).

■ Games that appeal to more women are more emotional engaging, contain less violence, and are more fun than traditional games (Lazzaro, 2008).

■ Females tended to be willing to play without regard to scores (Morlock, 1985).

■ EverQuest female players were 5 times more likely than the general population to report being bisexual (Osborne, 2008).

■ Women were more likely to play for social reasons (Osborne, 2008, Williams, 2009).

■ Women prefer socializing gratifications and puzzles (Reinhard, 2007).

■ Females play The Sims to relax, enjoy features of the game, and engage in a fantasy world; they are not seeking competition (Samyn, 2007).

■ Most female players have no contact with other female gamers, apart from the women they talk to online (Samyn, 2007).

■ Females were only 10% of the player demographic although they spent more time playing and played more characters than their male counterparts (Williams, 2009).

---

#### **Bijvank, Marije, Konijn, Elly, and Bushman, Brad (2007)**

##### **Bridging the Video Game Gap: Relating Games, Players, and Their Motivations**

*International Communication Association Conference, San Francisco*

##### **Synopsis:**

397 boys of varying education levels were surveyed to examine what characteristics distinguish various player-types.

##### **Keywords:**

academia, conference, survey, motivations, player types, aggression, middle school, high school, violence, what men want, what women want, values at play, academic achievement

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

#### **Brandt, Michelle (2005)**

##### **Gender differences are a laughing matter, study reveals**

*Stanford Report, November 9, 2005.*

##### **Synopsis:**

20 healthy adults (10 men and 10 women) viewed 70 black-and-white cartoons and then rated the cartoons on a 1-to-10 "funniness scale." During the screenings, functional magnetic resonance imaging was used to monitor participants' brain function.

##### **Keywords:**

journal, report, brain research, humor, motivations

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

#### **Cantrell, Tania (2006)**

##### **A Female Participant-Observer's View into How and Why Women Play Shooter Video Games**

*International Communication Association Conference, Germany*

##### **Synopsis:**

Exploratory qualitative analysis employs a uses and gratifications approach to understand how and why women play shooter video games.

##### **Keywords:**

conference, first person shooter, gaming social context, co play, play style, motivations

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

#### **Colwell, J., Grady, C., and Rhaki, S. (1995)**

##### **Computer games, self-esteem and gratification of needs in adolescents**

*Journal of Community and Applied Social Psychology, Vol 5, pp 195-206*

##### **Synopsis:**

120 adolescents were surveyed about gratification of needs and self-esteem and computer.

##### **Keywords:**

survey, academia, high school, motivations, gaming social context

**Full Text:** No | **Abstract:** Yes | **Highlights:** Yes



---

**Dawson, C. R., A. Cragg, Taylor, C. and Toombs, B. (2007)**

**Video Games: Research to improve understanding of what players enjoy about video games, and to explain their preferences for particular games**

*British Board of Film Classification (BBFC)*

**Synopsis:**

An extensive, large qualitative study of British players between the ages of 7 and 40, including interviews and discussion groups with players, parents, professionals, and journalists examines gender differences related to what gamers like and patterns of use.

**Keywords:**

case study, report, England, game genres, casual games, Gaming Social Context, Player types, Motivations, what women want

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Fullerton, Tracy, Fron, Janine and Pearce, Celia (2008)**

**A Game of One's Own: Towards a New Gendered Poetics of Digital Space**

*The Fibreculture Journal, issue 11*

**Synopsis:**

Proposes a "new poetics" of game space in which game design is more egalitarian and games themselves draw on a wider range of spatial and cognitive models.

**Keywords:**

academia, journal article, MMO, player types, motivations, pink games, what women want, game design, competition, storytelling, empowerment, femininity, the Sims

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Hartmann, T. (2003)**

**Gender differences in the use of computer games as leisure activities**

*DIGRA, Netherlands*

**Synopsis:**

Online survey (n=795) addresses what types of individuals are attracted to competitive gaming.

**Keywords:**

conference, competition, motivations

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Heeter, Carrie (2009)**

**Play Styles and Learning**

*Handbook of Research on Effective Electronic Gaming in Education*

**Synopsis:**

Two studies explore the various player types found in commercial MMOs and educational games. Study 1 examined the impact of different in-game reward schemas on player types and Study 2 compared classroom play with one child per computer versus paired play of the same educational game.

**Keywords:**

book, chapter, educational games, MMO, player types, learning, learning process, motivation, co play

**Full Text:** Yes | **Abstract:** Yes

---

**Hoef, F., Watson, C. L., Kesler, S. R., Bettinger, K. E., Reiss, A. L. (2008)**

**Gender differences in the mesocorticolimbic system during computer game-play**

*Journal of Psychiatric Research, Mar;42(4):253-8*

**Synopsis:**

A neurological study of the mesocorticolimbic system of both male and female brains compares difference in activation during game play.

**Keywords:**

brain research, journal, motivations

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Hoef, Fumiko, Christa L. Watson, Shelli R. Kesler, Keith E. Bettinger and Allan L. Reiss (2008)**

**Video games activate reward regions of brain in men more than women, Stanford study finds**

*Journal of Psychiatric Research*

**Synopsis:**

22 young adults (11 men and 11 women) played numerous 24-second intervals of a game while a functional magnetic resonance imaging, or fMRI, machine measured which parts of their brains were active during game play.

**Keywords:**

journal, brain research, motivations, survey,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes



---

**Lazzaro, Nicole (2008)****Are Boy Games Necessary?**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press, 2008*

**Synopsis:**

A field study of 30 adults observed for a composite total of 45 hours playing favorite games, including video recordings of what players said and did and verbal and non-verbal emotional cues during play.

**Keywords:**

book, chapter, what women want, what men want, case study, gaming culture, gaming social context, gender inclusive, player types, motivations, player demographics

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Lazzaro, Nicole (2005)****Diner Dash and the People Factor**

*xeodesign.com*

**Synopsis:**

A case Study of the game "Diner Dash" analyzing the game's emotional appeal for players.

**Keywords:**

Blog, Diner Dash, casual games, motivations,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Morlock, H., Yando, T., Nigolean, K. (1985)****Motivations of video game players**

*Psychological Reports, 57, 247-250*

**Synopsis:**

Analyzes a survey of 44 male and 73 female college freshmen about their video game play.

**Keywords:**

journal, psychology, competition, motivations,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Osborne, Tamsin (2008)****The virtual battle of the sexes**

*BBC News, December 23*

**Synopsis:**

Examines gender differences in more than 2,400 EverQuest II players, using survey and in-game data from Sony Online Entertainment.

**Keywords:**

academia, industry, survey, play data, media-press, player demographics, genre MMO, gaming social context, motivations, sexuality

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Popcap Games Press Release (2006)****Survey: Casual Computer Games as TV Replacement?**

*popcap.com*

**Synopsis:**

Survey of 2,100 respondents from among PopCap's customer base about when, where and why they turn to Casual Games.

**Keywords:**

casual games, motivations, player demographics

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Ray, Sheri Graner (2003)****Gender inclusive game design: Expanding the market**

*Hingham, MA: Charles River Media*

**Synopsis:**

Book explore aspects of many aspects of gender and computer gaming, including differences in reward systems, game play preferences, and avatar selection criteria, and how these issues all apply to game design, with recommendations for how games can be designed to be more appealing to women.

**Keywords:**

book, game design, gender inclusive, avatars, motivations, what women want

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Reinhard, Carrie Lynn Desira and Dervin, Brenda (2007)****Situational and Gender Comparisons of Digital Game Players' Preferences for Game Features and Gratification**

*International Communication Association Conference, San Francisco*

**Synopsis:**

A study of 320 university students measured game playing gratifications and feature preferences of male and female players for 3 game playing situations: playing a game they liked, one they disliked, and one they desired.

**Keywords:**

case study, academia, motivations, player types, what men want, what women want, competition, cooperation, conference

**Full Text:** No | **Abstract:** Yes | **Highlights:** Yes

---

**Samyn, Michaël (2007)****Tale of Tales Interviews with Celia Pearce**

*tale-of-theses.com*

**Synopsis:**

Transcript of an email interview with Celia Pearce about her design process and research on MMO games.

**Keywords:**

interview, MMO, game design, motivations

**Full Text:** Yes | **Abstract:** Yes

---

**Van Der Molen, Juliette and Jongbloed, Wieteke (2007)****Free Online Games: An Exploratory Uses and Gratifications Study of Free Games on the Internet**

*International Communication Association Conference, San Francisco*

**Synopsis:**

Survey of 343 fourth through sixth graders' uses, gratifications, and opinions related to free online games as well as gender differences within this gameplay.

**Keywords:**

conference, motivations, online games, casual games, middle school

**Full Text:** No | **Abstract:** Yes

## Player Demographics (17)

### Selected highlights from the PLAYER

**DEMOGRAPHICS tag** *(Each highlight is associated with one or more entries in the investiGaming collection. The authors' last name and year of publication is referenced after the highlight. Complete citations for all 17 investiGaming.com entries directly related to PLAYER DEMOGRAPHICS appear at the end of highlights.)*

#### Gaming and Sociality

■ About two-thirds of female gamers are playing with a romantic partner, while this is the case for less than one-fifth of male gamers. Female MMO players least likely to be playing with a romantic partner are those older than 35 (Yee, 2008).

■ Female gamers are about twice as likely to be playing with someone else playing in the same room with them than male gamers (see Figure 2). Men are more likely to be playing alone (Yee, 2008).

■ Playing an MMO as part of a romantic relationship also helps female players justify long hours spent playing; she is nurturing her romantic relationship as well as (presumably) having fun. Thus, these male relations legitimate both their initial entry and ongoing presence in an MMO (Yee, 2008).

■ 65% of game-playing teens play with other people who are in the room with them (Lenhart, 2008).

■ 47% of teens play online games with people they know in their offline lives (Lenhart, 2008).

■ Teens who have civic gaming experiences, such as helping or guiding other players, organizing or managing guilds, playing games that simulate government processes, or playing games that deal with social or moral issues, report much higher levels of civic and political engagement than teens who do not have these kinds of experiences (Kahne, 2008).

■ Teens who play games socially (a majority of teens) are more likely to be civically and politically engaged than teens who play games primarily alone (Kahne, 2008).

■ Game playing was an increasingly social activity (Osborne, 2008).

#### Game Play Statistics

■ The large majority of MMO players are male (85.4%). 44% of male players are age 22 or younger, compared with 20% of female players (Yee, 2008).

■ 38% of game players are women (ESA, 2008).

■ Women ages 18+ make up 30% of the game-playing population (ESA, 2008).

■ Boys ages 17 or younger make up 23% of the game-playing population (ESA, 2008).

■ The average adult woman plays games 7.4 hours per week (ESA, 2008).

■ The average adult man plays 7.6 hours per week (ESA, 2008).

■ The gender/time gap of the game-playing population has been decreasing since 2003 (ESA, 2008).

■ 40% of all gamers are women (Anonymous, 2008).

■ 55% of men and 50% of women play video games (Lenhart, 2008).

■ Most hard-core players of EverQuest II were female (Osborne, 2008).

■ Women were a key consumer group for mass market entertainment (Krotoski, 2004).

■ Women made up 39%, 36.8% and 65.9% respectively of gamers in the U.S., Japan, and Korea (Krotoski, 2004).

■ They were only 25% of gamers in Western Europe (Krotoski, 2004).

■ The average age of female gamers, 30-35 years, was older than that of male gamers (Krotoski, 2004).

■ Women had less time to play but represented a potential €14 billion of disposable income (Krotoski, 2004).

#### Casual Games

■ 76% of PopCap players are female (PopCap, 2006).

■ 26% of women under 40 play casual games while 36% of men under 40 play casual games (Popcap, 2006).

■ 61% of men have been playing games for 5+ years, while only 46% of women have been playing for that long (Popcap, 2006).

- 60% of all female casual gamers say they play on a daily basis, compared to 44% of men (Popcap, 2006).
- Women play casual games for more hours per week than men do (Popcap, 2006).
- Women play casual games for longer stretches of time than men do (Popcap, 2006).

### **Gamer Interests**

- All gamers, male and female, liked four kinds of fun: the fun of mastery, curiosity, better thinking or behavior, and socializing with friends (Lazzaro, 2008).
- The top 20 best-selling games in 2005 still use four basic scenarios (fighting, war-strategy, sports, and racing) (Lazzaro, 2008).
- Women were not looking for an “easier time” or games for women (Lazzaro, 2008).
- Both genders liked a challenge but women dislike violence (Lazzaro, 2008).
- SGN games attract mostly males who are slightly younger than the average game-playing population (Bret, 2008).
- Zynga games attract more men than women and 50% of their audience falls within the 22-25 age bracket (Bret, 2008).
- Blake Commagere’s Monsters have a fairly even male-female audience with 50% of this audience within the 22-25 age bracket (Bret, 2008).
- PC games were more likely than consoles to contain features that appeal to girls (Glaubke, 2001).

### **Males vs. Females**

- Because female players are targets of verbal harassment, flirtation, surveillance, and endless efforts to determine their real gender and age, they must be much more conscientious and vigilant about revealing their real identities and contact information (Yee, 2008).
- Male players score higher in the Advancement, Mechanics, and Competition motivations, while female players score higher in the Relationship and Customization motivations. There were very small or no gender differences in the other 5 motivations - Socializing, Teamwork, Discovery, Role-Play, and Escapism (Yee, 2008).
- Men were more likely to play to win, whereas women were more likely to play for social reasons (Osborne, 2008).

### **Video Game Characters**

- Player-controlled characters are usually male, and even nonhumans outnumbered female characters (Kaiser, 2002).
- Female characters were severely underrepresented in video games, accounting for only 16% of all characters (Glaubke, 2001).
- Male characters were most likely to be portrayed as competitors (47%), while female characters were most likely to be portrayed as props or bystanders (50%) (Glaubke, 2001).
- Male and female character roles and behaviors were frequently stereotyped, with males more likely to engage in physical aggression and females more likely to scream, wear revealing clothing and be nurturing (Glaubke, 2001).

---

### **Aleks Krotoski (2004)**

#### **CHICKS and JOYSTICKS: an exploration of women and gaming**

*The Entertainment and Leisure Software Publishers Association*

#### **Synopsis:**

Considers opportunities and challenges facing the industry in appealing to the female gamer.

#### **Keywords:**

report, United Kingdom, player demographics, sexuality, violence,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

### **Anonymous (2008)**

#### **ESA Talks State Of Biz, Reveals 40% Of Gamers Are Women**

*Gamasutra, July 17*

#### **Synopsis:**

Outlines the results of the ESA's new survey of consumer demographics.

#### **Keywords:**

media-press, industry, player demographics, survey

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Bret (2008)****As Promised: The Demographic Breakdown of the Top Three Game Developers on Facebook***Bret on Social Games***Synopsis:**

Briefly lists the player demographics of the top three game developers on Facebook.

**Keywords:**

blog, player demographics, casual games

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**ESA (Entertainment Software Association) (2007)****Game Player Data 2007***The ESA Web site (this data no longer available online)***Synopsis:**

Outlines the demographics of women gamers and analyzes how much time is spent playing games.

**Keywords:**

industry, report, player demographics, survey,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**ESA (Entertainment Software Associaton) (2008)****Game Industry Facts (2008)***Industry report, accessed April 4***Synopsis:**

Outlines the demographics of women gamers and analyzes how much time is spent playing games.

**Keywords:**

industry, report, player demographics, game industry

**Full Text:** No | **Abstract:** Yes | **Highlights:** Yes

---

---

**Glaubke, Christina, Miller, Patti, Parker, McCrae & Espejo, Eileen (2001)****Fair Play? Violence, Gender and Race in Video Games***Children Now***Synopsis:**

Examines the top-selling video games for each of the seven different game systems and identifies some of the unhealthy social messages that video games may be sending to young players about violence, gender and race.

**Keywords:**

survey, report, children, player demographics, violence, ethnicity, avatars, what women want

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Griffiths, M.D., & Hunt, N. (1995)****Computer game playing in adolescence: Prevalence and demographic indicators***Journal of Community and Applied Social Psychology, 5, 189-193***Synopsis:**

A questionnaire study was undertaken with 387 adolescents (12-16 years of age) to establish the time spent playing computer games, who they first started playing with, the reasons why they first started and why they play now and negative consequences of play.

**Keywords:**

journal, academia, high school, United Kingdom, player demographics

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Interactive Digital Software Association (IDSA) (2007)****Essential facts about the computer and video game industry***The ESA***Synopsis:**

Outlines the demographics of women gamers and analyzes how much time is spent playing games.

**Keywords:**

industry, survey, player demographics, game industry

**Full Text:** Yes | **Abstract:** Yes

---

**Kahne, Joseph, Middaugh, Ellen, and Chris Evans (2008)**  
**The Civic Potential of Video Games**

*digitallearning.macfound.org*

**Synopsis:**

A phone survey of 1,102 young persons in the United States aged 12 to 17 conducted by Pew Internet and American Life Project in order to explore the link between video games and civic engagement.

**Keywords:**

survey, report, high school, player demographics, game genres, digital divide, parents and gaming, gaming social context, co play, family dynamics, civic engagement, learning, Internet use

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Lazzaro, Nicole (2008)**

**Are Boy Games Necessary?**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press, 2008*

**Synopsis:**

A field study of 30 adults about their experiences playing favorite games, including video recordings of what players said and did (45 hours), player's questionnaire responses, and verbal and non-verbal emotional cues during play.

**Keywords:**

book, chapter, what women want, what men want, case study, gaming culture, gaming social context, gender inclusive, player types, motivations, player demographics

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Lenhart, Amanda, Jones, Sydney, and Alexandra Rankin Macgill (2008)**

**Adults and Video Games**

*Pew Internet & American Life Project*

**Synopsis:**

2,054 adults ages 18 and older, including 500 cell phone users were surveyed about their video game play.

**Keywords:**

academia, report, survey, adults older, adults younger, player demographics

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Lenhart, Amanda; Kahn, Joseph, Middaugh, Ellen, etc (2008)**

**Teens, Video Games, and Civics: Teens' gaming experiences are diverse and include significant social interaction and civic engagement**

*Pew Internet & American Life Project: Washington D.C.*

**Synopsis:**

Telephone interviews of 1102 12- to 17-year-olds and their parents in were analyzed in order to determine which teens are playing games, the games and equipment they are using, the social context of their play, and the role of parents and parental monitoring regarding games.

**Keywords:**

academia, survey, report, high school, civic engagement, gaming culture, game genres, player demographics, gaming social context, parents and gaming

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Osborne, Tamsin (2008)**

**The virtual battle of the sexes**

*BBC News, December 23*

**Synopsis:**

Examines gender differences in more than 2,400 EverQuest II players, using survey and in-game data from Sony Online Entertainment.

**Keywords:**

academia, industry, survey, play data, media-press, player demographics, genre MMO, gaming social context, motivations, sexuality

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Popcap Games Press Release (2006)**

**Survey: Casual Computer Games as TV Replacement?**

*popcap.com*

**Synopsis:**

A Survey of 2,100 respondents from among PopCap's customer base about when, where and why they turn to Casual Games.

**Keywords:**

casual games, motivations, player demographics

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**The Henry J. Kaiser Family Foundation (2002)****Children and video games: The Henry J. Kaiser Family Foundation***Kaiser Family Foundation***Synopsis:**

A fact sheet that focuses on video games in relation to children and health.

**Keywords:**

academia, report, survey, children, player demographics, violence, internet use, ethnicity

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Yee, Nicholas (2006)****The Demographics, Motivations, and Derived Experiences of Users of Massively Multi-User Online Graphical Environments***Presence: Teleoperators and Virtual Environments, 15, 309-329.***Synopsis:**

Online surveys were conducted with 30,000 online MMO players over a three year period to explore player demographics, motivations, and derived experiences.

**Keywords:**

journal, survey, MMO, player demographics, motivations,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Yee, Nick (2008)****Maps of Digital Desires: Exploring The Topography of Gender and Play in Online Games***In Beyond Barbie and Mortal Kombat: New perspectives on gender and gaming, Kafai, Y, Heeter, C., Denner, J. and Sun, J., eds. MIT Press***Synopsis:**

Multiple Surveys with data from 2,000 to 4,000 MMO players are combined with in-game observation to study various hypotheses about the dynamics of gender, play, and relationships in MMOs.

**Keywords:**

book, chapter, survey, player demographics, MMO, player types, what women want, what men want, co play, gaming social context

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes



## Sexuality (23 entries)

**Scope Definition:** *SEXUALITY is about the experience and expression of sex and sexual identity.*

**Selected highlights from the SEXUALITY tag** (Each highlight is associated with one or more entries in the *investiGaming* collection. The authors' last name and year of publication is referenced after the highlight. Complete citations for all 23 *investiGaming.com* entries directly related to SEXUALITY appear at the end of highlights.)

### Player Preferences for Sexuality in Avatars/Characters

■ A majority of both men and women chose female avatars with exaggerated sexual features and did not consider them abnormal. However, clothes made a big difference. Both men and women preferred female avatars that are dressed modestly and show less skin. Avatars representing negative stereotypes of women were shunned and those representing positive stereotypes were preferred. (Larsson, 2005)

■ People found anthropomorphic (human-like) avatars to be more attractive and credible, and were more likely to choose them. Perceptions of avatars were significantly influenced by clear masculinity or femininity. The uncertainty of androgyny was not desirable. Masculine avatars were less attractive than feminine avatars. Most people reported a preference for human avatars that matched their gender. (Nowak, 2005)

■ There seem to be various reasons people swap genders in online environments. The phenomenon poses a number of questions. (Suler, 2004)

■ The practice of switching genders in online games is not considered deviant within gaming. Swapping or switching genders has become normal in gaming. There are various speculations about why players do it. (MacCallum-Stewart, 2008)

### Games and Portrayals of Sexuality

■ Two popular games (Final Fantasy and The Sims) implicitly construct sexuality that is heterosexual and presume that the gamer is a heterosexual male. In the author's opinion, they fail to deny the existence of gay

and lesbian characters and this leads to gender and sexual confusion. (Consalvo, 2001)

■ The majority of video game players were male. Character representations in video games were geared toward male players. Male characters were mentioned in 76% of the reviews, versus 33% female. Among playable characters, the percentage of male to female was 65% to 22%. More female characters were sexualized (41%) than male characters (4%). (Ivory, 2006)

■ Men who played sexually explicit video games were quicker to recognize words with sexual connotations and words describing women as sex objects. They had an increased tendency to engage in sexual harassment. A sexually explicit video game that objectifies women primed men to think about sex, to view women as sex objects and behave inappropriately toward women in social situations. (Yao, 2006)

■ Among 489 characters in 60 of the top-selling video games, there were far fewer female characters (70) than male (419). The females were significantly more likely to be partially nude, wearing sexually revealing or inappropriate clothing, and have an unrealistic body. (Downs, 2005)

■ Sexual priming (i.e., raised awareness of gender identity) facilitated aggressive behavior in men but not in women. Women who had been sexually primed perceived the ambiguous aggressive behavior of a male as more aggressive after priming. (Mussweiler, 2000)

### Games as an Environment to Challenge Norms

■ We should further study the process of avatar construction to see whether it challenges societal norms or reinforces them. Avatars in MMOG's are increasingly more detailed and inherently express identity through an online persona. Walls thinks that players of MMOG's have the greatest ability to explore and re-construct the dominant culture view of gender, race, and class. (Walls, 2005)

■ Video game characters potentially shape players' perceptions of gender roles through indirect messages. Players learn societal expectations of appearance, behavior, and roles for men and women. In a content analysis of 49 articles in video game magazine articles, male characters were more likely to be heroes and main

characters, use more weapons, have more abilities, and be more muscular and powerful. Females were more often supplemental characters, more attractive, sexy, and innocent, and wear more revealing clothing. (Miller, 2007)

■ There is increasing evidence of women playing games. The trend in this use of leisure offers potential for using gaming as an activity that can be used to challenge stereotypes of women. (Bryce, 2003)

■ In-game marriage among MMO players in China appeared to be a highly visualized, institutionalized, and hetero-normative form of cyber marriage, often occurring between couples already married or dating in real life. (Wu, 2007)

■ Feminists have trouble deciding whether the game character Lara Croft is a positive role model for girls or a toy for boys. The game character has been turned into a virtual commodity used to sell products from hardware to cars. She is an entertaining visual spectacle that also disrupts the pleasure of the female viewer. (Kennedy, 2002)

### **Differences between Male and Female Players**

■ One in five gamers of an MMORPG preferred socializing online over offline. (Hussain, 2008)

■ Significantly more men than women players of an MMORPG found it easier to converse online. (Hussain, 2008)

■ Males played MMORPG online nearly 7 times per week compared to females who played 5 times per week. (Hussain, 2008)

■ Male players of an MMO (Everquest II) played for achievement whereas female players play for social interaction. (Williams, 2009)

■ Male players of an MMO (Everquest II) were more aggressive players, especially within romantic relationships where both partners play. (Williams, 2009)

■ Females were 10% of Everquest II (an MMO) players. (Williams, 2009)

■ Female players of an MMO (Everquest II) spend more time playing, and played more characters, than male players. (Williams, 2009)

■ Most hard-core players of EverQuest II were female. (Osborne, 2008)

■ Female players of an MMO (Everquest II) were more than twice as likely to be playing with a romantic partner. (Williams, 2009)

■ EverQuest female players were 5 times more likely than the general population to report being bisexual. (Osborne, 2008)

■ Female players of an MMO (Everquest II) playing with a romantic partner (62% of female players) have the following characteristics: older, made less money, played more hours per week, exercised more, had lower BMI, had more characters, reported higher relationship quality and enjoyed the game more. (Williams, 2009)

■ Female players of an MMO (Everquest II) were healthier than male players or females in the general population. (Williams, 2009)

■ Gamers were healthier than the average person, measured by body mass and exercise. (Osborne, 2008)

■ Game playing was an increasingly social activity. (Osborne, 2008)

■ Men were more likely to play to win, whereas women were more likely to play for social reasons. (Osborne, 2008)

### **Industry, the Market, and Sex of Players**

■ The games industry has approached the female market three ways: hoping women will adapt to existing styles, designing games especially for girls and women, and modifying existing games to make them “transgender.” The second approach – giving girls what they want, such as non-violent activities that build relationships and resolve conflicts – has been highly successful, seen in *The Sims* and *There*. Unfortunately, the approach still tends to rely on stereotypes of women. The third approach is attempted in the game *Neverwinter Nights*. An analysis of *Neverwinter Nights* found that despite the inclusion of features to add feminine appeal and a rejection of gender difference, it is strongly stereotypical with regard to women and hetero-normative, that is, conforming to a heterosexual view of relationships in the characters, the story and the game environments. (Corneliussen, 2006)

■ A team developing computer games was found to have no clear age in mind for their target player, but they were unconsciously targeting males. Designers assumed that female players needed “special” themes, while male players wanted “normal” themes. Game designers said they begin game design by thinking of a plot that is interesting to the player, but they never asked potential players and mainly imagine what players want. (John, 2006)

■ The social liberalism expressed in the Sims (acceptance of gay relationships, absence of racial stereotypes, non-sexualized presentation of women) is more an expression of Electronic Arts’ interest in financial success than a conversion of political beliefs. Up to 1980, the traditional market for video games was male, especially young, white, middle-class heterosexual males. Gaming companies targeted non-traditional gamers since the mid-to-late nineties to expand their market. The Sims is an example of design and marketing to appeal to “othered” groups, placing activity in a progressive suburban society, and putting the tools of identity creation into the hands of players. The reason for such inclusion was not so much the adoption of cultural liberalism but pragmatic capitalism. (Curley, 2005)

■ The games industry’s most important trade show had an exhibit hall “visually over-saturated” with highly sexualized and flamboyant women there to be used as bait. It was a competition for the attention of male players of action games. Subtle and nuanced games were barely visible. (Jenkins, 2001)

■ Women were a key consumer group for mass market entertainment. Women made up 39%, 36.8% and 65.9% respectively of gamers in the U.S., Japan, and Korea. They were only 25% of gamers in Western Europe. The average age of female gamers, 30-35 years, was older than that of male gamers. Women had less time to play but represented a potential €14 billion of disposable income. (Krotoski, 2004)

---

### **Aleks Krotoski (2004)**

#### **CHICKS and JOYSTICKS: an exploration of women and gaming**

*The Entertainment and Leisure Software Publishers Association*

#### **Synopsis:**

An examination of the role of women in the mass market for gaming.

#### **Keywords:**

report, United kingdom, player demographics, sexuality, violence,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

### **Bryce Jo, Rutter Jason (2002)**

#### **Killing Like a Girl: Gendered Gaming and Girl Gamers’ Visibility**

*DIGRA conference 2002*

#### **Synopsis:**

Examines the relationship between gaming and gender.

#### **Keywords:**

conference, gender stereotypes, violence, sexuality, avatars, game industry

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

### **Consalvo, Mia (2001)**

#### **Hot Dates and Fairy-Tale Romances: Studying Sexuality in Videogames**

*Paper presented at Playing with the Future, Manchester, UK.*

#### **Synopsis:**

Using a case study approach, the author examines Final Fantasy IX for the Playstation and The Sims for Mac/PC for representations of characters and plot offered, and their gameplay.

#### **Keywords:**

conference, United Kingdom, sexuality, femininity, gender stereotypes, case study, Final Fantasy IX, The Sims, gender theories, masculinity

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Corneliussen, H. and Mortensen, T. (2006)****The Non-sense of Women in Neverwinter Nights**

*Women in Games. Conference Proceedings 2006, University of Abertay Press. ISBN 189979618-5.*

**Synopsis:**

An analysis of the game Neverwinter Nights which was modified in order to appeal to women.

**Keywords:**

conference, editorial, Neverwinter Nights, avatars, sexuality, gender stereotypes

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Curlew, A. B. (2005)****Liberal Sims?: Simulated Difference and the Commodity of Social Diversity**

*DIGRA conference, Vancouver, Canada*

**Synopsis:**

An analysis of different social groups – female, male, gay, racial or ethnic minority—playing The Sims and how the product is marketed to these groups.

**Keywords:**

conference, avatars, ethnicity, the sims, gender identity

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Downs, E. and Smith, S. (2005)****Keeping Abreast of Hypersexuality: A Video Game Character Content Analysis**

*Paper presented at: The 55th annual conference of the International Association of Communication*

**Synopsis:**

A content analysis of 60 top-selling video games, and 489 characters in them, for gender and hypersexuality.

**Keywords:**

conference, case study, sexuality, console games, psychology, NPCs, avatars

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Helen W. Kennedy (2002)****Lara Croft: Feminist Icon or Cyberbimbo?: On the Limits of Textual Analysis**

*Game Studies Volume 2, Issue 2*

**Synopsis:**

A reflection on what to think about Lara Croft as a games character and as a cultural icon if you are a feminist.

**Keywords:**

academia, journal, avatars, Tomb Raider, sexuality, feminism

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Hussain, Zaheer and Mark Griffiths (2008)****Gender Swapping and Socializing in Cyberspace: An Exploratory Study**

*CyberPsychology & Behavior. February 1, 2008*

**Synopsis:**

An online survey of 119 people (83 males and 32 females), ages 18-69, mostly American (73%) about their behavior playing massively multiplayer online role-playing games (MMORPGs), especially regarding gender swapping.

**Keywords:**

survey, journal, MMO, psychology, sexuality, gender identity, avatars

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Ivory, James (2006)****Still a Man's Game: Gender Representation in Online Reviews of Video Games**

*MASS COMMUNICATION & SOCIETY, 2006, 9(1), 103–114*

**Synopsis:**

A content analysis of 100 one-to-three-page reviews of popular games in Gamespot Review, looking at representations of characters and gender.

**Keywords:**

academia, journal, content analysis, sexuality, NPCs, avatars

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Jenkins. Henry (2001)****From Barbie to Mortal Combat: Further Reflections**

*presented at Playing By The Rules: The Cultural Policy Challenges of Video Games, University of Chicago*

**Synopsis:**

Observations from the exhibit hall at the Electronic Entertainment Expo in 2001.

**Keywords:**

conference, academia, game industry, sexuality

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**John, Sara (2006)****Un/Realistically Embodied: The Gendered Conceptions of Realistic Game Design**

*Gender and Interaction: Real and Virtual Women in a male world*

**Synopsis:**

A team developing computer games was studied for insight into their decisions, especially concerning gender and the creation of avatars.

**Keywords:**

case study, conference, gender stereotypes, avatars, NPCs, game industry, sexuality, game design, England

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Larsson, Anna and Nerén, Carina (2005)****Gender Aspects on Computer Game Avatars**

*SICS Technical Report T2005:06*

**Synopsis:**

A study of the characteristics of female avatars, stereotypes of women, and how men and women relate to hyper-sexualized avatars.

**Keywords:**

report, academia, sexuality, avatars, what women want, what men want, gender stereotypes

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**MacCallum-Stewart, Esther (2008)****Real Boys Carry Girly Epics: Normalising Gender Bending in Online Games**

*Journal for Computer Game Culture. 2 (1), p.27-40*

**Synopsis:**

Observations about the practice of choosing the opposite gender in selection of an avatar in online games.

**Keywords:**

academia, journal, editorial, gender identity, sexuality

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Mikulincer, Mario and Gail Goodman, Eds. (2006)****Dynamics of Romantic Love: Attachment, Caregiving, and Sex**

*International Press Publication, Inc.*

**Synopsis:**

Explorations of romantic love drawing on theories about attachment, interdependence, and self-expansion.

**Keywords:**

Book, psychology, sexuality

**Full Text:** Yes | **Abstract:** Yes

---

**Miller, M.K. and Summers, A. (2007)****Gender differences in video game characters' roles, appearances, and attire as portrayed in video game magazines**

*Sex Roles, v57, 733-742, 2007*

**Synopsis:**

A content analysis of 49 articles in video game magazines, coding 115 characters, to study gender roles.

**Keywords:**

journal, avatars, sexuality, gaming culture, fandom, gender stereotypes

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Mussweiler, Thomas and Jens Förster (2000)****The sex→aggression link: A perception-behavior dissociation**

*Journal of Personality and Social Psychology*. Vol. 79(4), Oct 2000, pp. 507-520

**Synopsis:**

Four studies looked at the effects of sexual priming on men and women.

**Keywords:**

journal, psychology, academia, sexuality, aggression,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Nowak, K. L., and Rauh, C. (2005)****The influence of the avatar on online perceptions of anthropomorphism, androgyny, credibility, homophily, and attraction**

*Journal of Computer-Mediated Communication*, 11(1), article 8

**Synopsis:**

A study of 255 people who were asked to evaluate avatars in terms of gender identities and attractiveness.

**Keywords:**

journal, academia, avatars, sexuality, masculinity, femininity

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Osborne, Tamsin (2008)****The virtual battle of the sexes**

*BBC News*, December 23

**Synopsis:**

A study of differences between 2,400 male and female players of EverQuest II.

**Keywords:**

academia, industry, survey, play data, Media-Press, player demographics, genre MMO, gaming social context, motivations, sexuality

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Suler, J.R. (2004)****Do Boys (and Girls) Just Wanna Have Fun? Gender-Switching in Cyberspace**

*In Gender Communication* (by A. Kunkel). Kendall/Hunt Publishing

**Synopsis:**

A speculation as to why men or women swap genders.

**Keywords:**

case study, gender identity, MMO, psychology, femininity, masculinity, sexuality, gaming culture

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Walls, Douglas (2005)****"Just Who Wears the Tights in This Household?": Technological Dramas, Gender Trouble, and Cryptic Studios**

*DIGRA conference*

**Synopsis:**

An analysis of the MMOG City of Heroes looked at how players construct the gender identity of their avatars and whether that construction can be seen as a political statement or expression.

**Keywords:**

conference, MMO, City of Heroes, gender identity, avatars, sexuality

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Williams, Dimitri, Mia Consalvo, Scott Caplan, and Nick Yee (2009)****Looking for gender (LFG): Gender roles and behaviors among online gamers**

*Journal of Communication*

**Synopsis:**

A survey of 7,129 Everquest II players is combined with in-game observations to examine gender differences in play motivations and lifestyle.

**Keywords:**

academia, journal, survey, gender theories, gender identity, motivations, gaming social context, genre MMO, sexuality, aggression

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Wu, Weihua (2007)****Beyond Virtual Carnival and Masquerade: In-Game Marriage on the Chinese Internet***Games and Culture, Vol. 2, No. 1, 59-89***Synopsis:**

A study based on observations and interviews with MMO-players in China. The study was to investigate the phenomenon of gender-swapping and in-game marriages as social commentary.

**Keywords:**

journal, case study, sexuality, avatars, MMO, gender theories, China

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Yao, Mike, Mahood, Chad, and Linz, Daniel (2006)****Sexual Priming, Gender Stereotyping, and Likelihood to Sexually Harass: Examining the Effects of Playing a Sexually Explicit Video Game***International Communication Association Conference, Germany***Synopsis:**

A study of whether playing sexually explicit video games prime men to think about sex and view women as sex objects.

**Keywords:**

conference, experiment, harassment, gender stereotype, sexuality, psychology

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes



## Violence (18)

**Selected highlights from the VIOLENCE tag** (*Each highlight is associated with one or more entries in the investiGaming collection. The authors' last name and year of publication is referenced after the highlight. Complete citations for all 18 investiGaming.com entries directly related to VIOLENCE appear at the end of highlights.*)

### Gender and Preference for Violent Games

■ Boys (aged 12-17) at a lower education level play more standalone games, play more violent games, and display less social motivations for game-playing, than their higher educated counterparts, who played more lawn and mmorpgs for social motivations (Bijvank, 2007).

■ Lower-educated boys (ages 12-17) were most attracted by the violence in their favorite games, whereas higher-educated boys were most attracted to the games' potential for immersion (Bijvank, 2007).

■ Boys preferred human and sports violence (Buchman, 1996).

■ Girls expressed a stronger preference for Fantasy (cartoon) Violence, while boys were more likely to choose games designated as Human Violence (Funk, 1996, Buchman, 1996, Kaiser, 2002).

■ Middle school boys overwhelmingly picked games that involved fighting as their favorite (Heeter, 2009).

■ Girls overwhelmingly ranked fighting games as their least favorite (Heeter, 2009).

■ Less violence in games would appeal to more female players and would not impede most male players' enjoyment. Persons with high trait aggression (which includes more males than females) did prefer violent content (Przybylski, 2009).

■ General entertainment games in which the main action does not focus on fighting or destruction become more popular as children get older, especially among girls (Kaiser, 2002).

### Gender, Gaming, and Aggression

■ Heart Rate change is indicative of arousal in men. Men appear to be more interested in the violent video game.

The violent soundtrack appears to motivate men to play better, and this is revealed in their performance scores (Tafalla, 2007).

■ Systolic Blood Pressure and Diastolic Blood Pressure are indicative of and women appear to be more distressed than men by the soundtrack. In addition, it could be argued that exposure to violent video games may have an added health risk for women, thus prompting them to largely avoid the games (Tafalla, 2007).

■ Women who spend more time playing computer games exhibit higher levels of aggression but no increased hostility (Norris, 2004).

■ Women who played computer games perceived their online environments as less friendly but experienced less sexual harassment online, were more aggressive themselves, and did not differ in gender identity, degree of sex role stereotyping, or acceptance of sexual violence when compared to women who used the computer but did not play video games (Norris, 2004).

■ Female players were more aggressive, by personality, than female non-players but they were similar in gender identity, degree of sex role stereotyping, or acceptance of sexual violence (Norris, 2004).

### Violence in Games Designed by Children

■ None of 4 girl designed games involved combat, but all 4 of the boy games did to some extent. (Heeter, 2009).

■ In the girls' games, players face life threatening circumstances but there was never an expectation they might actually die. In three of four boy games the player could die often, as part of play (Heeter, 2009).

■ Boy-designed games were violent, including themes of combat, and in three of four game concepts, possible player death (Heeter, 2009).

■ Girl-designed games included the possibility but no actual violence (Heeter, 2009).

■ The main player in girl games negotiated with potentially hostile aliens but won by succeeding at quests, not by defeating an enemy or doing better than a rival (Heeter, 2009).

## Violence by and towards Female and Male Game Characters

■ Out of 33 Nintendo and Sega games from 1995, 21% of the games sampled portrayed violence specifically towards women, usually in the opening sequence (Deitz, 1998).

■ Nearly nine out of ten African American females (86%) were victims of violence. Their victimization rate was almost twice that of white females (45%) and nearly four times the rate of Asian/Pacific Islander females (23%) (Glaubke, 2001).

■ Almost two thirds of male characters (63%) engaged in physical aggression, compared to just 40% of female characters (Glaubke, 2001).

■ Male characters were three times more likely than female characters to appear unaffected by violence (Glaubke, 2001).

---

## Aleks Krotoski (2004)

### CHICKS and JOYSTICKS: an exploration of women and gaming

*The Entertainment and Leisure Software Publishers Association*

#### Synopsis:

Considers opportunities and challenges facing the industry in appealing to the female gamer.

#### Keywords:

report, United Kingdom, player demographics, sexuality, violence,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

## Anderson, Craig and Karen Dill (2000)

### Video games and aggressive thoughts, feelings, and behavior in the laboratory and in life

*Journal of Personality and Social Psychology*. April, Vol. 78(4) 772-790

#### Synopsis:

Two studies examined the relationship between aggression and the playing of violent video games.

#### Keywords:

journal, psychology, aggression, violence, case study,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

## Bijvank, Marije, Konijn, Elly, and Bushman, Brad (2007)

### Bridging the Video Game Gap: Relating Games, Players, and Their Motivations

*International Communication Association Conference, San Francisco*

#### Synopsis:

Surveyed 397 boys of varying education levels to examine what characteristics distinguish various player-types.

#### Keywords:

academia, conference, survey, motivations, player types, aggression, middle school, high school, violence, what men want, what women want, values at play, academic achievement

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

## Bolton, Amanda and Fouts, Gregory (2005)

### Individual Differences in Violent Video Game Play

*DIGRA 2005 Conference: Changing Views- Worlds in Play*

#### Synopsis:

Fifty University students (82% males) completed three personality measures. Then they were recorded while playing the game, "State of Emergency" to identify the characteristics of people who are most at-risk of being negatively affected by playing violent video games.

#### Keywords:

violence, psychology, aggression, State of Emergency, play style, case study, academia, conference, adult younger

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Buchman, D.D., & Funk, J.B. (1996)****Video and computer games in the 90s: children's time commitment and game preference***Children Today, 24, 12-15***Synopsis:**

The study examined the game-playing habits of 900 children.

**Keywords:**

journal, children, violence, what women want, what men want

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Deitz, T. L. (1998)****An examination of violence and gender role portrayals in video games: Implications for gender socialization and aggressive behavior***Sex Roles, 38, 425-442***Synopsis:**

Project analyzed the content of popular video games for their presentation of gender roles and violent themes.

**Keywords:**

survey, journal, violence, aggression, gender stereotypes, children, gender identity

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Funk, J. B., and Buchman, D. D. (1996)****Playing violent video and computer games and adolescent self-concept***Journal of Communication 46(2): 19-32***Synopsis:**

A multivariate analysis identify marked gender differences in game-playing habits and in scores on the Harter Self-Perception Profile for Adolescents to document current adolescent electronic game-playing habits and explore associations among preference for violent games.

**Keywords:**

journal, academic achievement, violence, high school

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Gitte Jantzen and Jans F. Jensen (1993)****Powerplay — Power, violence and gender in video games***AI & Society Vol. 7 (4)***Synopsis:**

Discusses questions from the perspective of semiotics, media and control studies as well as connections between women and male dominated video games.

**Keywords:**

journal, violence, masculinity, case study, what men want

**Full Text:** Yes | **Abstract:** Yes

---

**Glaubke, Christina, Miller, Patti, Parker, McCrae & Espejo, Eileen (2001)****Fair Play? Violence, Gender and Race in Video Games***Children Now***Synopsis:**

Examines the top-selling video games for each of the seven different game systems and identifies some of the unhealthy social messages that video games may be sending to young players about violence, gender and race.

**Keywords:**

survey, report, children, player demographics, violence, ethnicity, avatars, what women want

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Heeter, Carrie, Egidio, Rhonda, Mishra, Punya, Winn, Brian and Winn, Jillian (2009)****Alien Games: Do girls prefer games designed by girls?***Games and Culture, Vol. 4, No. 1, 74-100***Synopsis:**

A three year study, with a content analysis of games envisioned by 5th and 8th graders, followed by a survey of students in the same age range reacting to video promos representing these envisioned games.

**Keywords:**

academia, journal, game design, survey, experiment, children middle school, girls designing games, gender inclusive, violence, avatars, humor, npcs, storytelling, genre educational games, Halo

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Jansz, Jeroen (2005)****The Emotional Appeal of Violent Video Games for Adolescent Males***Communication Theory, Volume 15 Issue 3 Page 219-241, August***Synopsis:**

Proposes a theoretical explanation for the popularity of violent video games among adolescent male gamers relating media and emotion.

**Keywords:**

journal, high school, violence, masculinity, aggression, psychology

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Media Education Foundation (2001)****Game Over: Gender, Race & Violence in Video Games***DVD, Media Education Foundation***Synopsis:**

Educational documentary addresses the fastest growing segment of the media including questions of gender, race and violence.

**Keywords:**

video, violence, gender stereotypes, ethnicity

**Full Text:** Yes | **Abstract:** Yes

---

**Norris, Kamala (2004)****Gender Stereotypes, Aggression, and Computer Games: An Online Survey of Women***CyberPsychology & Behavior. 2004, 7(6): 714-727,***Synopsis:**

An online survey was conducted on women who played computer games and women who used the computer but did not play computer games to explore gender identity and aggressive personality in the context of computers.

**Keywords:**

Journal, gender stereotypes, harassment, gender identity, IT careers, gender inclusive, aggression

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Przybylski, Andrew K.; Ryan, Richard M.; Rigby, C. Scott (2009)****The Motivating Role of Violence in Video Games***Personality and Social Psychology Bulletin, vol. 35, no. 2, pp. 243-259, February***Synopsis:**

Six studies, two survey based and four experimental, explore the relations between violent content and people's motivation and enjoyment of video game play.

**Keywords:**

academia, experiment, journal, violence, what women want, what men want

**Full Text:** No | **Abstract:** Yes | **Highlights:** Yes

---

**Subrahmanyam, K., Kraut, R., Greenfield, P.M. and Gross, E. (2000)****The impact of home computer use on children's activities and development***The future of children: Children and computer technology, Vol. 10, Issue 2, pp 123-144***Synopsis:**

This article provides an overview of the limited research on the effects of home computer use on children's physical, cognitive, and social development.

**Keywords:**

journal, children, learning process, academic achievement, violence, family dynamics, survey, aggression

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Tafalla, R.J. (2007)****Gender differences in cardiovascular reactivity and game performance related to sensory modality in violent video game play***Journal of Applied Social Psychology, 37 (9) , 2008–2023***Synopsis:**

This study examined the gender-specific cardiovascular and performance responses to playing the violent video game "DOOM" with and without the soundtrack.

**Keywords:**

journal, psychology, Doom, violence,

**Full Text:** No | **Abstract:** Yes | **Highlights:** Yes

---

**The Henry J. Kaiser Family Foundation (2002)****Children and video games: The Henry J. Kaiser Family Foundation**

*Kaiser Family Foundation*

**Synopsis:**

A fact sheet that focuses on video games in relation to children and health.

**Keywords:**

academia, report, survey, children, player demographics, violence, internet use, ethnicity

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Walkerdine, Valerie (2007)****Children, Gender, Video Games: Towards a Relational Approach to Multimedia**

*Palgrave Macmillan; First Edition*

**Synopsis:**

Book explores a number of debates about young children and multimedia, with particular reference to video games.

**Keywords:**

book, children ,violence, parents and gaming,

**Full Text:** Yes | **Abstract:** Yes

## What Women Want (32)

**Selected highlights from the WHAT WOMEN WANT tag**  
*(Each highlight is associated with one or more entries in the investiGaming collection. The authors' last name and year of publication is referenced after the highlight. Complete citations for all 32 investiGaming.com entries directly related to WHAT WOMEN WANT appear at the end of highlights.)*

### Features and Themes that Women Like

■ Elements of games that are girl-friendly are: a female playable character, cooperative play (with another player), the ability to create thing, an environment that is based in reality, puzzles, positive feedback, availability of help, a slow or variable pace, clearly explained rules, the absence of violence, no killing, and no theme of good versus evil. (Glaubke, 2001)

■ Girls like to see female characters in video games, yet females account for only 16% of all characters. (Glaubke, 2001)

■ Male characters were most likely to be portrayed as competitors (47%), while female characters were most likely to be portrayed as props or bystanders (50%). Male and female character roles and behaviors were frequently stereotyped, with males more likely to engage in physical aggression and females more likely to scream, wear revealing clothing, and be nurturing. Video games in this study contained very few features found to be appealing to girls. PC games were the most likely of any of the game systems to contain features that appeal to girls. (Glaubke, 2001)

■ Gender differences were prominent in what gamers like about playing and in patterns of use. Girls and women tended to play games that involve more driving, life simulation (like The Sims), and puzzle games. Female gamers are much less interested in fast action, first person shooter, 'swords and sandals,' 'hack and slash' and football games, than males. Girls were less likely to seek social rewards of gaming, such as bragging about their performance, helping each other, sharing experiences, or playing against each other. Girls and women tended to play fewer games and have shorter sessions than males. Other entertainment interests, especially social interests, competed with gaming, for girls, and they did not expect to play when they get older. Females were less likely to play in groups. (Dawson, 2007)

■ On average, girls and women were less involved with video games than boys and men, and when they did play, they often preferred different games. Females said they disliked video games that lacked meaningful social interaction, had violent content, and had characters that were sexual stereotypes. They were less attracted to competitive elements in video games. (Klimmt, 2006)

■ Alternative Reality Games seem to do things that are suggested to appeal to female gamers, such as a strong story and strong female characters in the game, female developers, vibrant communities, and accessible game mechanics. For example, a game should deliver rewards immediately, to accommodate the shorter duration of play that is typical of women. Don't call the easiest mode "girly-man." Have a well-moderated forum. Allow networked play, particularly between friends. Encourage social interaction. Include more female characters, and not just as sex objects. Have more developed story lines. Other games should imitate ARGs. (Phillips, 2005)

■ Research on "what girls like best" in gaming has stalled in thinking, drawing from the early work of Cassell and Jenkins. A gamut of gender stereotypes have become canonical in the field, re-instated by Sheri Graner-Ray. Games studies research on "what girls like best" needs to be re-thought drawing on broader approaches to gender and socio-cultural studies, or else the research will further legitimate inequalities and stereotypes. (Jensen, 2007)

■ A majority of both men and women chose female avatars with exaggerated sexual features and did not consider them abnormal. However, clothes made a big difference. Both men and women preferred female avatars that are dressed modestly and show less skin. Avatars representing negative stereotypes of women were shunned and those representing positive stereotypes were preferred. (Larsson, 2005)

■ Women imagined fantasy technology instruments as tools for human relationships (connecting people, communicating, collaborating) serving to integrate their public and private lives. Men saw new imagined machines as something that would extend their power over the physical universe, such as giving them absolute control, tremendous speed, or unlimited knowledge. (Honey, 1991)



■ The game culture is highly enamored of technology and this has led to styles that mostly appeal to men. For example, space is a domain to be conquered, and the environment is a battlefield in which players shoot and fight. Alternatively, games could cultivate a sense of wonder within a magical world. (Fullerton, 2008)

■ Game worlds are still largely about epic struggles and portray women in stereotypes, in spite of the arrival and ubiquitous use of games like *Second Life* and *Sims2* that are gender-neutral. (Brunner, 2008)

■ Females play *The Sims* to relax, enjoy features of the game, and engage in a fantasy world. They are not seeking competition. Most have no contact with other female gamers, apart from the women they talk to online. The players learned digital skills from playing, such as how to structure information on a computer and how to search the internet. Gaming literature should consider that there are differences among female gamers now; they should not be treated as a homogeneous group. (Vosmeer, 2007)

■ All six studies showed that the more players felt autonomy and competence with a game, the more they enjoyed it, valued it, and wanted to play it again. Violent content did not add to their experience, nor interfere with it. Players who were more aggressive were more likely to prefer games with violent content, but it did not increase their enjoyment or immersion. Males were more likely to be aggressive and select more violent games. Males reported higher sense of competence than women. (Przybylski, 2009)

■ Women may be under-represented in certain game genres not because they don't like the games, but because men dominate physical and social access points and discourage the women. Once players enter the game, they may find other things they like. For example, women may like slaying dragons and men might find socializing fun along with slaughtering innocent rabbits. One area for potential development is encouraging play between romantic partners. Games also bring together high school students and professors, retired war veterans, and stay-at-home moms, which is not common in other physical or virtual worlds. (Yee, 2008)

■ Early attempts to attract girls to gaming in the 1990s thought that "pink and lavender, lipstick and nail polish" would persuade them to play games. Many feminists worry that the reliance on stereotypes will further separate gaming worlds of men and women. Different groups hold conflicting viewpoints as to what types of games will promote feminine, feminist, female, and societal interests. (Cassell, 1998)

■ The time that children spent playing games decreased from the fourth to the eighth grade. Boys played more than girls. Children's preference for general entertainment games increased over time, while preference for educational games decreased. The popularity of violent games remained constant. Girls preferred fantasy violence more than boys. Boys preferred human and sports violence. (Buchman, 1996)

■ Girls were definitely interested in playing games. They were particularly interested in social interaction with others. They indicated a preference for playing on computers over video game systems. (Inkpen, 1994)

■ Middle-school girls in a lunchtime gaming club who were in a social mood chose dual-player "pick-up-and-play" driving or fighting games using consoles. Girls who wanted to play alone put on headphones and used PCs, and played action adventure or simulation games. Their preferences changed from week to week; they were not static. It is not just gender that predisposes preferences, but also social context and situation, prior exposure, access, and peer culture. As the girls gained competence, they could see different possibilities in various games and try them. Rather than look at static preferences by gender, we should talk about a dynamic games literacy. (Carr, 2005a)

■ What we think of as preferences of girls for certain games may be due to differences of access, competence, and peer culture than gender. As players gained competence they changed their preferences and recognized different features of games. Gaming tastes were alterable and site specific. We should not deny that gendered tastes exist, but also recognize that other malleable variables are in operation. (Carr, 2005b)



### **Why Getting Girls to Play is Important**

■ We don't worry about women participating in the web any more, but we still worry about two things: whether girls do and can and should play computer games and the fact that women are still not adequately represented in fields that design digital technology. (Jenkins, 2008)

■ Girls were taking the AP Computer Science test at a low rate (17%). Women were only about 20% of IT professionals. Women made up half the workforce yet only 20% of those with information technology credentials. Women received less than 28% of computer science bachelor's degrees, and that percentage is down from a high of 37% in 1984. Women made up only 9% of engineering-related bachelor's degrees. Recruiting women is a way to meet the IT talent shortage. Our educational system needs to adopt practices that will increase the participation of girls in technology education. (AAUW, 2000)

■ Ellen Beeman, a producer of *The Matrix Online* and long-time designer of video games, talks about what would spark a woman's interest in a career in gaming. (Bedigian, 2004)

### **The Business of Appealing to Girls**

■ The game industry cannot continue to grow unless it taps new markets, especially women. By understanding differences between men and women, the industry can apply the knowledge to traditional genres and tap the future market. (Ray, 2003)

■ The scarcity of girl-friendly video games sends the message to girls that using computers and video games are activities for boys and are not acceptable for girls. (Glaubke, 2001)

■ The games industry is still focused on its first target customer: a 23-year-old, single, male technophile. All gamers, male and female, liked four kinds of fun: the fun of mastery, curiosity, better thinking or behavior, and socializing with friends. The top 20 best-selling games in 2005 still use four basic scenarios (fighting, war-strategy, sports, and racing). Women were not looking for an "easier time" or games for women. Both genders liked a challenge but women dislike violence. The industry has an opportunity for a wider market by engaging more emotion, reducing violence, and increasing fun. (Lazzaro, 2008)

■ Three popular computer games: *Arcanum*, *Warcraft III*, and *The Sims*, are not very suitable as entertainment for girls. They could be made to be more entertaining and interesting by adding some features that girls like. Or, new games could be based on them but designed for girls. (Nakamura, 2005)

■ There was a gender gap among college students who played video games, although a sizable female minority played games. The limited popularity of games among females can be explained by the way they are represented in the games and in publicity. Changes in content could make games more appealing to women. (Ivory, 2002)

■ It is possible to do socially positive work in the business of developing new media such as games, multimedia, and virtual reality, as well as make money. The founder of *Purple Moon* and employee of *Interval Research Corporation* tells how. (Laurel, 2001)

■ Morgan Romine talks about what the game industry should do to appeal to women. (Kafai, 2008)

### **Bias against Girls and Women**

■ Schools need to provide more access to modern technologies to all groups. (Culp, 2002)

■ There appeared to be increased segregation of pro-players by sex, and more single sex teams. There were higher prize winnings for male teams. Women's competitions appeared to have a secondary status. There was a "glamorization" of women game players in the marketing and promotion of some female-only teams. (Taylor, 2008)

### **A Girl's View of Computers and Games**

■ Girls tended to see the computer as a tool and not as a toy. (Culp, 2002)

■ Having more women in IT may lead to less male-focused game worlds. (Culp, 2002)

■ "Just as young girls may interpret highly sexualized characters as symbols of the 'ideal woman,' so too may young boys. These impressions may influence girls' feelings about themselves and their place in the world, and they may also influence boys' expectations and treatment of females." (Glaubke, 2001)

---

**American Association of University Women (AAUW) (2000)**
**Tech-Savvy: Educating girls in the new computer age**

*Commission on Technology and Teacher Education, Washington, D.C.*

**Synopsis:**

A report from a commission that looked at information technology and the education of girls, consulting 900 teachers, 70 girls, and 14 experts.

**Keywords:**

IT careers, middle school, girls designing games, what women want

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Bedigian, Louis (2004)**
**"The Matrix Online's" Live Team Producer Talks Games, Graphics, Storytelling and M**

*gamezone.com*

**Synopsis:**

An interview with Ellen Beeman, a producer of The Matrix Online.

**Keywords:**

industry, media-press, interview, workforce, storytelling, what women want

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Brunner, Corneila (2008)**
**Games and Technological Desire: Another Decade**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press*

**Synopsis:**

The paper considers whether the past decade of tremendous change in our uses of technology is also reflected in the evolution of game worlds toward gender-neutral environments.

**Keywords:**

book, chapter, gender stereotypes, gender inclusive, masculinity, femininity, what women want, what men want, IT careers

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Buchman, D.D., & Funk, J.B. (1996)**
**Video and computer games in the 90s: children's time commitment and game preference**

*Children Today, 24, 12-15*

**Synopsis:**

The study examined the game-playing habits of 900 children.

**Keywords:**

journal, children, violence, what women want, what men want

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Carr, Diane (2005)**
**Contexts, pleasures and preferences: girls playing computer games**

*DIGRA conference, Vancouver, Canada*

**Synopsis:**

A study of eight girls, 9 to 13 years old, who were members of a lunchtime gaming club at their all-girls school in South London. 55 classmates were also surveyed.

**Keywords:**

conference, England, what women want, educational games, game design

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Carr, Diane (2005)**
**Contexts, gaming pleasures, and gendered preferences**

*Simulation & Gaming, vol. 36, no. 4, pp. 464-482, December 2005*

**Synopsis:**

A study of gaming preferences of girls in a club at an all-girls school in the U.K.

**Keywords:**

journal, what women want, United Kingdom, gaming social context

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Cassell, Justine and Jenkins, Henry (1998)****Chess for girls? Feminism and computer games**

*In From Barbie to Mortal Kombat: Gender and Computer Games*, Justine Cassell and Henry Jenkins, Eds., MIT Press, pp 2-45 [http://www.media.mit.edu/gnl/publications/gg\\_introduction.pdf](http://www.media.mit.edu/gnl/publications/gg_introduction.pdf)

**Synopsis:**

A discussion of girls and gaming, and how to encourage more girl players.

**Keywords:**

pink games, book, chapter, feminism, what women want,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Culp, Katie McMillan and Honey, M. (2002)****Imagining less-gendered game worlds**

*In Ghosts in the machine: Women's voices in research with technology*, Yelland, N., Rubin, A., and McWilliam, E., Eds., Peter Lang Publishing, NY, pp 33-53.

**Synopsis:**

The article speculated on what it will take to close the digital divide between men and women, building on AAUW's report Tech Savvy and other work.

**Keywords:**

book, chapter, computer skills, IT careers, what women want, media literacy

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Dawson, C. R., A. Cragg, Taylor, C. and Toombs, B. (2007)****Video Games: Research to improve understanding of what players enjoy about video games, and to explain their preferences for particular games**

*British Board of Film Classification (BBFC)*

**Synopsis:**

An extensive, large study of British players between the ages of 7 and 40, including interviews and discussion groups with players, parents, professionals, and journalists in order to examine gender differences related to what gamers like and patterns of use.

**Keywords:**

case study, report, England, game genres, casual games, Gaming Social Context, Player types, Motivations, what women want

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Fullerton, Tracy, Fron, Janine and Pearce, Celia (2008)****A Game of One's Own: Towards a New Gendered Poetics of Digital Space**

*The Fibreculture Journal*, issue 11

**Synopsis:**

An argument for a new poetics of game space that is more egalitarian and draws on a wider range of spatial and cognitive models.

**Keywords:**

academia, journal article, MMO, player types, motivations, pink games, what women want, game design, competition, storytelling, empowerment, femininity, the Sims

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Glaubke, Christina, Miller, Patti, Parker, McCrae & Espejo, Eileen (2001)****Fair Play? Violence, Gender and Race in Video Games**

*Children Now*

**Synopsis:**

Examines the top-selling video games for each of the seven different game systems and identifies some of the unhealthy social messages that video games may be sending to young players about violence, gender and race.

**Keywords:**

survey, report, children, player demographics, violence, ethnicity, avatars, what women want

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Honey, M. Moeller, B., Brunner, C., Bennett, D., Clemens, P. & Hawkins, J. (1991)****Girls and Design: Exploring the Question of Technological Imagination**

*New York: Center for Children and Technology.*

**Synopsis:**

Women who are successful in technology careers said a number of experiences were encouraging: role models, support, collaboration, assignments based in real life, and play associated with math, science, and technology activities. They gained motivation especially from fathers, male peers, and male

**Keywords:**

report, IT careers, what women want,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Inkpen, K., Upitis, R., Klawe, M., Lawry, J., Anderson, A., Ndunda, M., et al. (1994)**

**We have never forgetful flowers in our garden: Girls' responses to electronic games**

*Journal of Computers in Math and Science Teaching*, 13(4), 383-403

**Synopsis:**

Studies how girls interact within a game environment, in the interactive science museum Science World BC during the summer of 1993. Part of a large-scale research project aimed at increasing the number of children who enjoy learning math concepts through games.

**Keywords:**

journal, case study, educational games, what women want, gaming social context

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Ivory, J. D., & Wilkerson, H. (2002)**

**Video games are from Mars, not Venus: Gender, electronic game play and attitudes toward the medium**

*Paper presented to the Commission on the Status of Women at the Annual Convention of the Association for Education in Journalism and Mass Communication*

**Synopsis:**

Observations from a survey of college students and differences in game playing between men and women. Also, a review and content analysis of games and publicity.

**Keywords:**

conference, survey, what women want,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Jenkins, Henry and Cassell, Justine (2008)**

**From Quake Grrls to Desperate Housewives: A Decade of Gender and Computer Games-**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing*, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press

**Synopsis:**

A paper on women's participation in computer games.

**Keywords:**

book, chapter, gender stereotypes, what women want, game industry, The Sims, genre casual games, genre educational games, gender inclusive, Desperate Housewives

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Jenson, Jennifer; Suzanne de Castell (2007)**

**Girls and Gaming: Gender Research, "Progress" and the Death of Interpretation**

*DIGRA conference 2007*

**Synopsis:**

Discusses the research on "what girls like best" and shifts in thinking.

**Keywords:**

conference, gaming culture, gender stereotypes, what women want, game design

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Keave, Vincent (2008)**

**The Perspectives of Tracy J. Butler**

*escapistmagazine.com*

**Synopsis:**

An interview with Tracy J. Butler, the creator of web comic Lackadaisy and a 3-D artist for online MMOGs, about the industry.

**Keywords:**

industry, media-press, interview, game industry, workforce, working conditions, IT careers, what women want, gender inclusive

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Klimmt, Christoph and Hartmann, Tilo (2006)****Gender and Computer Games: Exploring Females' Dislikes***Journal of Computer-Mediated Communication* 11 (4), 910–931**Synopsis:**

Two studies of German females who play video games.

**Keywords:**

journal, case study, Germany, gender stereotypes, survey, what women want,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Larsson, Anna and Nerén, Carina (2005)****Gender Aspects on Computer Game Avatars***SICS Technical Report T2005:06***Synopsis:**

A study of the characteristics of female avatars, stereotypes of women, and how men and women relate to hyper-sexualized avatars.

**Keywords:**

report, academia, sexuality, avatars, what women want, what men want, gender stereotypes

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Laurel, Brenda (2008)****Notes from the Utopian Entrepreneur***in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing*, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press**Synopsis:**

Discusses the problem of men and women in the game industry base decisions about what boys and girls want on their own childhood experiences.

**Keywords:**

book, chapter, what men want, what women want, gender stereotypes, game design, Purple Moon, game industry

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Laurel, Brenda (2001)****The Utopian Entrepreneur***Cambridge: MIT Press***Synopsis:**

A book about the business of developing new media products.

**Keywords:**

book, game industry, what women want, game design, pink games, gender stereotypes

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Lazzaro, Nicole (2008)****Are Boy Games Necessary?***in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing*, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press, 2008**Synopsis:**

A field study of 30 adults about their experiences playing favorite games, including video recordings of what players said and did (45 hours), player's questionnaire responses, and verbal and non-verbal emotional cues during play.

**Keywords:**

book, chapter, what women want, what men want, case study, gaming culture, gaming social context, gender inclusive, player types, motivations, player demographics

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Nakamura, Rika and Hanna Wirman (2005)****Girlish Counter-Playing Tactics***Game Studies* volume 5, issue 1**Synopsis:**

Three games, Arcanum, Warcraft III, and The Sims, are examined for their match with preferences of girls.

**Keywords:**

academia, journal, player types, Arcanum, Warcraft III, The sims, what women want

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Phillips, Andrea (2005)****Soapbox: ARGs and How to Appeal to Female Gamers***Gamasutra, November 25***Synopsis:**

A speculation on what game designers can learn from Alternative Reality Games that do a lot of things that that appeal to women.

**Keywords:**

alternate reality gaming, ARG, media-press, industry, what women want

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Przybylski, Andrew K.; Ryan, Richard M.; Rigby, C. Scott (2009)****The Motivating Role of Violence in Video Games***Personality and Social Psychology Bulletin, vol. 35, no. 2, pp. 243-259, February***Synopsis:**

Six studies, two survey based and four experimental, explored the relations between violent content and people's motivation and enjoyment of video game play.

**Keywords:**

academia, experiment, journal, violence, what women want, what men want

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Ray, Sheri Graner (2003)****Gender inclusive game design: Expanding the market***Hingham, MA: Charles River Media***Synopsis:**

This book explore aspects of computer gaming, e.g. the differences in reward systems, game play preferences, and avatar selection criteria, and how these issues all apply to game design, looking at how games can be designed to appeal to women.

**Keywords:**

book, game design, gender inclusive, avatars, motivations, what women want

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Taylor, T. L. (2008)****Becoming a Player: Networks, Structure and Imagined Futures***in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press***Synopsis:**

Summarize findings on girls' interactions with computers and discovers how girls generate views and knowledge that are both personally meaningful and useful. Provides practical considerations for classroom use of technology.

**Keywords:**

book, chapter, editorial, professional gaming, CounterStrike, gender stereotypes, gaming culture, what women want, gender identity, gender equity

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Vosmeer, Mirjam, Jansz, Jeroen, and van Zoonen, Liesbet (2007)****I'd Like to Have a House Like That: A Study of Adult Female Players of The Sims***International Communication Association Conference, San Francisco***Synopsis:**

A study of female players of The Sims and The Sims 2 between the ages of 17 and 59, through 23 face-to-face interviews and 34 email interviews.

**Keywords:**

conference, article, The Sims, The Sims 2, motivations, what women want, computer skills, internet use, media literacy

**Full Text:** No | **Abstract:** Yes | **Highlights:** Yes

---

---

**Wotkowski, E. and Stuikamon, H. (2004)****Accessing Space - Barriers of Entrance: Females and the Counter-Strike Universe***MS Thesis. IT-University***Synopsis:**

A study of the game Counter-Strike, played in internet cafes, and its accessibility to women.

**Keywords:**

academia, gaming culture, gaming social context, what women want, counterstrike, non gamers

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun (2008)****Interview with Morgan Romine, Fragdolls Ubisoft**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press*

**Synopsis:**

Interview with a captain of an all-girls gaming team.

**Keywords:**

book, chapter, interview, professional gaming, avatars, violence, what women want

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, (2008)****Interview with Sheri Graner Ray**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press*

**Synopsis:**

An interview with a leading female game designer.

**Keywords:**

book, chapter, interview, what women want, Ultima, what men want

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Yee, Nick (2008)****Maps of Digital Desires: Exploring The Topography of Gender and Play in Online Games**

*In Beyond Barbie and Mortal Kombat: New perspectives on gender and gaming, Kafai, Y, Heeter, C., Denner, J. and Sun, J., eds. MIT Press*

**Synopsis:**

Multiple Surveys with data from 2,000 to 4,000 MMO players are combined with in-game observation to study various hypotheses about the dynamics of gender, play, and relationships in MMOs.

**Keywords:**

book, chapter, survey, player demographics, MMO, player types, what women want, what men want, co play, gaming social context

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes



## Workforce (20)

### Selected highlights from the WORKFORCE tag

*(Each highlight is associated with one or more entries in the investiGaming collection. The authors' last name and year of publication is referenced after the highlight. Complete citations for all 20 investiGaming.com entries directly related to WORKFORCE appear at the end of highlights.)*

### Encouraging Women to Enter the Game Industry

■ If a player likes a game enough, they too want to work for that company (Fullerton 2008).

■ Creating more games that appeal to women will help to create a “virtuous cycle” to draw more women into game creation (Fullerton 2008).

■ An ideal female-friendly job environment encourages creativity, new ideas, interaction and communication, with open space to think instead of cubicles (Fullerton 2008).

■ Industry needs to show adolescents that not everyone in technology is an engineer and that companies need project leaders and business analysts (Twentyman, 2008).

■ The more women play video games, the more they will come to see the industry as a serious career path (Pham, 2008).

■ The gender gap in the IT workplace can be reduced by introducing flexible schedules, and training for workers who temporarily leave and need to catch up again, to accommodate work/family balance (Lanzalotto, 2007).

■ Some game executives see women as a largely untapped audience for games and believe that having more women developers will increase the likelihood that more women will buy their products (Pham, 2008).

### Designing Games for Girls

■ It cannot be assumed that 8-year-old girls in 2008 have the same interests and attitudes as that same age would have had even five years ago (Dillon, 2008).

■ Girls interests change from age to age and cultural moment to cultural moment (Dillon, 2008).

### Male-Oriented Game Industry

■ From recruitment techniques to trade show entertainment, the game industry is marketed towards males (Pham, 2008).

■ Due to long hours during “crunch time” the game industry makes it difficult for women to take time off to have a baby or switch to part-time hours to raise young children. Therefore, to increase women’s participation in the industry companies should build more realistic schedules that minimize long hours (Pham, 2008).

■ Game designer tutorials follow a distinctly male learning paradigm (Pratt, 2007).

■ Women are discouraged from the game industry because of the negative portrayals of women and strong anti-female bias in popular games (Pratt, 2007).

■ There is evidence for discrimination that partly explains the lower percentages of women and minorities in science and engineering (Sevo 2008).

### Game Industry Statistics

■ Fewer than 1 in 5 game industry professionals are women (Pham, 2008).

■ Women in game-related jobs make less money on average than their male counterparts.

■ According to the International Game Developers Association, only 11.5% of the gaming industry workforce was female as of 2005 (Pratt, 2007).

■ 75% of women surveyed said that they would encourage other women to pursue similar career paths (Perelman, 2007).

■ 52% of women surveyed believed that their organizations offer a favorable climate for female employees (Perelman, 2007).

■ 48% of women surveyed felt that their views were not as acknowledged or welcomed as that of their male counterparts (Perelman, 2007).

■ 44% of women surveyed reported that women in their company received fewer invitations to participate in and lead large projects (Perelman, 2007).

■ 73% of women surveyed felt confident that they could influence their bosses (Perelman, 2007).

■ 53% of women surveyed described themselves as broadly influential in their organization and in control of their careers (Perelman, 2007).

■ 88.5% of game industry professionals were male and 11.5% were female (IGDA, 2005).

---

**Bedigian, Louis (2004)**

**Recruiting Firm Mary-Margaret.com Talks to GameZone about the Women's Game Conference, how to Break into the Game Industry and More**

*gamezone.com*

**Synopsis:**

Interview with Mary Margaret Walker and Robin McShaffry of Mary-Margaret recruiting and business services.

**Keywords:**

industry, media-press, interview, game industry, workforce

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Brathwaite, Brenda (2008)**

**Op-ed: Women in Games: Who Cares?**

*gamecareerguide.com*

**Synopsis:**

Brenda Brathwaite was tired of being asked what it means to be a 'women in games,' so she called up a few male colleagues and asked them what it's like to be a 'man in games.'

**Keywords:**

industry, media-press, workforce, game industry

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Committee on Maximizing the Potential of Women in Academic Science and Engineering, National Academy of Sciences, National Academy of Engineering, and Institute of Medicine (2007)**

**Beyond Bias and Barriers: Fulfilling the Potential of Women in Academic Science and Engineering**

*The National Academies Press*

**Synopsis:**

A national report on women in science and engineering with recommendations for action.

**Keywords:**

academia, book, gender equity, workforce, it careers, working conditions

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Dillon, Beth (2008)**

**Heather Kelley: Game Designer at moboid**

*notesongamedev.net*

**Synopsis:**

Details an interview with moboid game designer Heather Kelley for her involvement in everything from AAA next-gen console games, interactive smart toys, handheld games, to web communities for girls.

**Keywords:**

interview, media-press, industry, workforce, game design,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Fullerton, Tracy, Fron, Janine. Pearce, Celia, and Morie, Jacki (2008)**

**Getting girls into the game: Towards a "Virtuous Cycle"**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press*

**Synopsis:**

Discusses what draws people to work for a game company and increasing the number of women going into the industry.

**Keywords:**

game industry, workforce

**Full Text:** No | **Abstract:** Yes | **Highlights:** Yes

---

**IGDA (International Game Developers Association) (2005)**

**Game Developer Demographics Report**

*International Game Developers Association*

**Synopsis:**

6500 game industry professionals were surveyed about their demographics including age, race, sexual orientation, and education.

**Keywords:**

survey, industry, game industry, ethnicity, workforce

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Jacobs, Stephen (2008)****Future Play: Daglow Talks Game Industry Myths***Serious Games Source***Synopsis:**

Outlines Stormfront Studios president Don Daglow's closing speech given at the Future Play 2008 conference.

**Keywords:**

media-press, industry, workforce, game industry

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Kafai, Yasmin, Heeter, Carrie, Denner, Jill and Jennifer Sun (2008)****Interview with Megan Gaiser**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press*

**Synopsis:**

An interview with Megan Gaiser, president and CEO of Her Interactive, a pioneering company in interactive entertainment targeted toward female play preferences.

**Keywords:**

book, chapter, game industry, workforce, game design, interview

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Kafai, Yasmin, Heeter, Carrie, Denner, Jill and Sun, Jennifer (2008)****Pink, Purple, Casual or Mainstream Games: Moving Beyond the Gender Divide**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press*

**Keywords:**

book, chapter, pink games, workforce

**Full Text:** Yes | **Abstract:** No

---

**Keave, Vincent (2008)****The Perspectives of Tracy J. Butler***escapistmagazine.com***Synopsis:**

An interview with Tracy J. Butler, the creator of web comic Lackadaisy and a 3-D artist for online MMOGs, about the industry.

**Keywords:**

industry, media-press, interview, game industry, workforce, working conditions, IT careers, what women want, gender inclusive

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Lanzalotto, Jim (2007)****How to Narrow IT's Gender Gap***Computerworld***Synopsis:**

The article discussed the low percentage of women in the information technology workforce.

**Keywords:**

media-press, IT careers, workforce, working conditions

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Perelman, Deborah (2007)****Report: Tech's Gender Gap Widened by Uninviting Workplace***eWeek***Synopsis:**

2,000 women working in technology-related fields were surveyed about their perceptions of their careers.

**Keywords:**

media-press, IT careers, workforce, working conditions

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Pham, Alex (2008)****Women left on sidelines in video game revolution***Los Angeles Times***Synopsis:**

Explores women's roles in the game industry, why they are underrepresented, and ways to increase their participation in the industry.

**Keywords:**

media-press, report, game industry, workforce,

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Pratt, Mary K. (2007)****A Few Good Women Are Needed in Computer Gaming***Computerworld***Synopsis:**

Game industry professionals discuss the reasons women are underrepresented in the game industry and ways to draw women into the industry.

**Keywords:**

media-press, girls designing games, workforce, game industry, game design

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Ruberg, Bonnie (2008)****Women in Games: The Gamasutra 20***Gamasutra, May 21***Synopsis:**

The first Gamasutra list of Top 20 women working in the video game industry in 2008.

**Keywords:**

Industry, media-press, work force, game industry, gender equity, IT careers

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Schiebinger, Londa (Ed.) (2008)****Gendered Innovations in Science and Engineering***Stanford University Press***Synopsis:**

A book of edited papers by prominent scholars on research and design projects that were influenced by gender analysis.

**Keywords:**

Academia, Book, IT Careers, workforce, working conditions, gender theories, gender equity, psychology

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Sevo, Ruta (2008)****Momox 10 x 10 Recommendation List***momox.org***Synopsis:**

A list of about 100 recommended resources on the issue of women in science and engineering.

**Keywords:**

blog, workforce, it careers, girls designing games, working conditions, computer skills, classroom context, gender equity, self-efficacy

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Sevo, Ruta and Daryl Chubin (2008)****Bias Literacy: Review of concepts in research on discrimination***momox.org***Synopsis:**

Ninety percent of adolescents thought that technology is cool and regularly used it to chat. Only 28% of adolescent girls contemplated a career in technology compared with 52% of boys. Industry needs to show adolescents that not everyone working in technology is an engineer and that companies need

**Keywords:**

literature review, academia, workforce, IT careers, working conditions, gender equity, harassment, gender stereotypes

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

---

**Twentyman, Jessica (2008)****What Is It About Girls and IT?**

*Financial Times Digital Business (05/14/08)*

**Synopsis:**

Women are a “drastic minority” in science- and technology-related studies and the numbers are shrinking at every stage.

**Keywords:**

Industry, media-press, work force, programming, IT Careers, gender equity

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes

---

**Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun (2008)****Interview with Nichol Bradford, Vivendi Games**

*in Beyond Barbie and Mortal Kombat: New Perspectives on Gender, Gaming, and Computing, edited by Yasmin Kafai, Carrie Heeter, Jill Denner, Jen Sun, MIT Press*

**Synopsis:**

An interview with Nichol Bradford, the senior global director of strategic growth at Vivendi Games (VG) who works on strategic planning and special projects.

**Keywords:**

book, chapter, interview, game industry, ethnicity, workforce

**Full Text:** Yes | **Abstract:** Yes | **Highlights:** Yes