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Usability News is a free web newsletter that is produced by the Software Usability Research Laboratory (SURL) at Wichita State University. The SURL team specializes in software/website user interface design, usability testing, and research in human-computer interaction.

[Barbara S. Chaparro](#), Editor

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## **Video Gaming Trends: Violent, Action/Adventure Games are Most Popular**

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**Summary.** The continual growth of the video game industry is a testament to many people's enduring hobby of playing video games. Playing video games now is very different than when it first reached mainstream popularity in the 70s. Today, the average video game consumers have more options than ever in regard to the types of video games, devices, and game-related items (e.g., game memberships, game magazines) that they can purchase and use. This article summarizes the results of an online survey in which 341 video game players completed. Current demographics of video game players, as well as their general attitude, behavior, preference, and spending tendencies are presented. Many of the respondents identified video game playing as their main hobby and indicated a preference for playing games on the computer rather than on consoles or handheld devices. The most recently purchased and most favorite video games reported were from the Action, Role Playing, Adventure, and Strategy genres.

### **INTRODUCTION**

The video game industry has come a long way since early arcade video games (e.g., Pong) and the Atari console reached the mainstream. In general, video game is a generic term that refers to any electronic games that involve users interacting with a user interface. Currently, the video game business is a growing multi-billion dollar industry. In the United States, approximately \$24.7 billion was spent on video games (Newzoo, 2010), and that approximately \$10.1 billion was spent on physical video game content (e.g., consoles, game software) in 2010 (NPD Group, 2011). Additionally, one of the recent forecasts at the Electronic Entertainment Expo (E3) is that the global market revenue for video games would increase to be about \$65 billion in 2011 (The Financial Express, 2011).

Since 2005, there has been a rapid release of three popular game consoles (i.e., Microsoft Xbox 360, Sony PlayStation 3, and Nintendo Wii). In terms of overall sales, the Wii sold the most units at approximately 89.4 million, followed by the Xbox 360 at approximately 57.6 million units, and then the PlayStation 3 at approximately 55.5 million units (Nintendo, 2011a; Microsoft, 2011; Sony, 2011). Recently, reports from the Semi-Annual Financial Results Briefing by Nintendo (2011b) have revealed that the PlayStation 3 is the best-selling console in the world for 2011. In terms of handheld gaming devices, Nintendo has held a large portion of the handheld market sales for their Nintendo DS, Gameboy/Gameboy Color, and Game Boy Advance (Nintendo, 2011a). In particular, the Nintendo DS is currently the best-selling handheld and gaming device in the world, with approximately 149 million units sold.

The video game business is not only lucrative for the manufacturers of video gaming devices, but also for the software publishers. It was estimated that the retail software revenue in 2011 is approximately \$29.5 billion (The Financial Express, 2011). In terms of annual revenue, the top software publishers currently are Activision Blizzard (top game series: *Call of Duty* and *World of Warcraft*), Electronic Arts (top game series: *The Sims* and *Madden NFL*), Take-Two Interactive Software (top game series: *Grand Theft Auto* and *Red Dead Redemption*), and Ubisoft (top game series: *Assassin's Creed*, *Prince of Persia*, and *Tom Clancy*). Recently, it was reported that the global top five selling video games in the first week of December, 2011 are *Mario Kart 7*, *Call of Duty: Modern Warfare 3*, *Just Dance*, *Super Mario 3D Land*, and *Kinect Adventures* (VGChartz, 2011).

## Purpose

Given the vast market of video games and the enduring popularity of video games, it is of interest to investigate the current population who play video games. Specifically, one of the study's goals is to determine who plays video games, and what are the general video game usage, preference, and spending habit of video game players. Furthermore, another goal of this study is to examine the general attitude and behavior that video game players have in relation to their video game activities.

## METHOD

### Participants

A total of 341 people who play video games completed the video games usage survey. Approximately 73.90% of the respondents were male ( $n = 252$ ) while the remaining 26.10% were female ( $n = 89$ ). Respondents' ages ranged from 18 to 51 ( $M = 21.65$ ,  $SD = 4.43$ ). The majority of respondents were White (73%), 11% were Asian/Pacific Islander, 6% were multiracial, 4% were Hispanic/Latino, 3% were Black/African American, and the remaining 4% either classified as "Other" or they did not wish to respond.

Many respondents (73%) were full-time students, 7% were part-time students, and the remaining 20% were not in school. Additionally, the majority of respondents were single (69%), had some college or were college graduate (61%), and earned less than \$25,000 a year (64%). Overall, many of the respondents did not have a specific occupation aside from being a student (31%) or that they did not wish to disclose their occupation (25%). The remaining respondents were varied in terms of their occupation. Some of the occupations listed included web/game developers, software engineers/programmers, sales

clerks, tutors, researchers, chefs, and teachers. Furthermore, approximately 84% of respondents reported that, on average, they spent 10 hours or less per week watching television.

## Materials

A 68-item online questionnaire was created to explore video games usage. The survey included basic demographic questions and questions about video game usage, preferences, and spending habits. Respondents were also asked to complete 23 items about their video game behaviors and attitudes adapted from a video game survey by Thornham (2008). Each of the 23 items asked respondents to indicate their level of agreement to a statement (e.g., "I lose a sense of my body when I game.") on a scale of 1 (Strongly Disagree) to 5 (Strongly Agree).

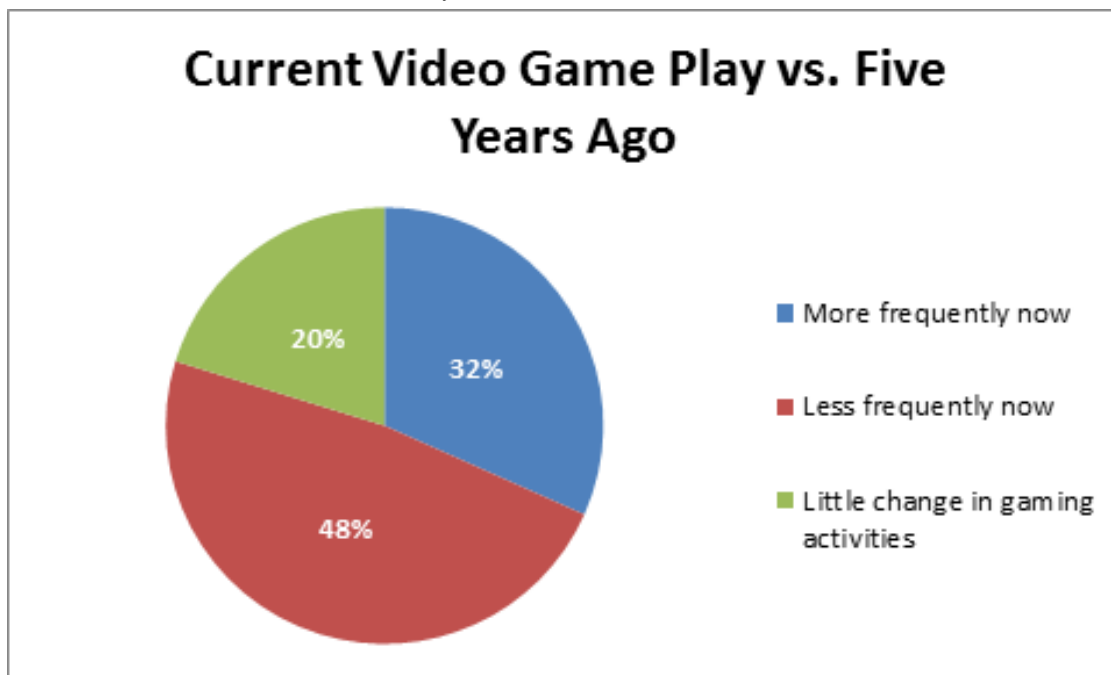
## Procedure

The questionnaire was generated via SurveyMonkey. Also, the questionnaire was distributed on Wichita State University's Sona Experiment Management System, Facebook, Google+, and game forums. On average, it took 25 minutes to complete the survey. Responses were collected from October to November, 2011.

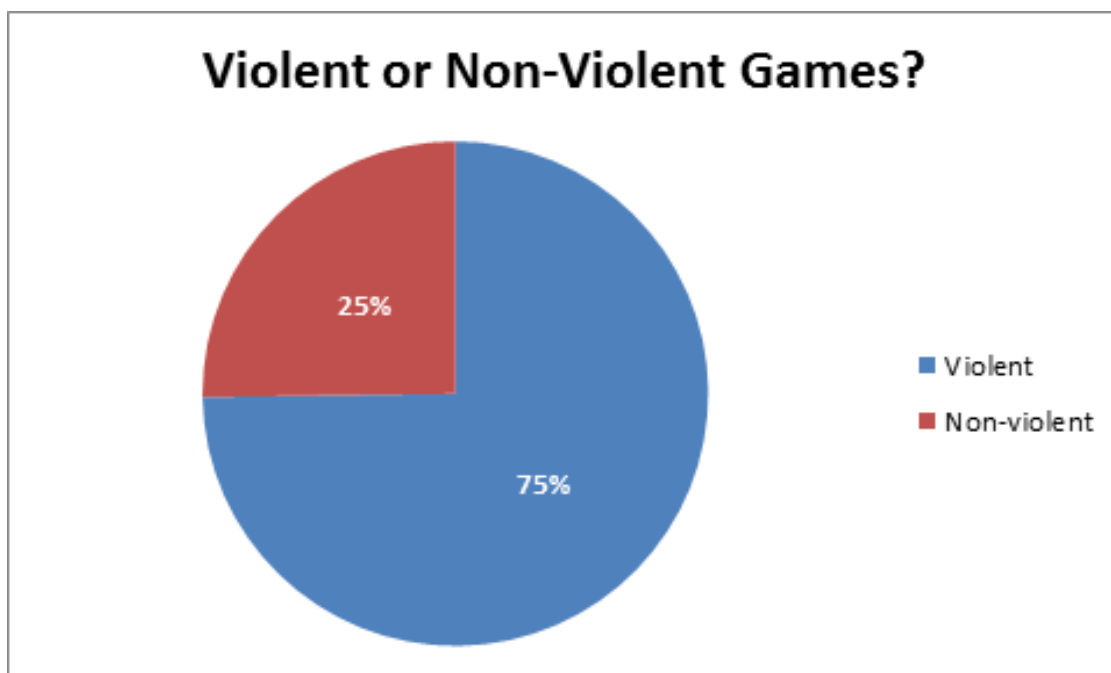
# RESULTS

## General Video Game Usage

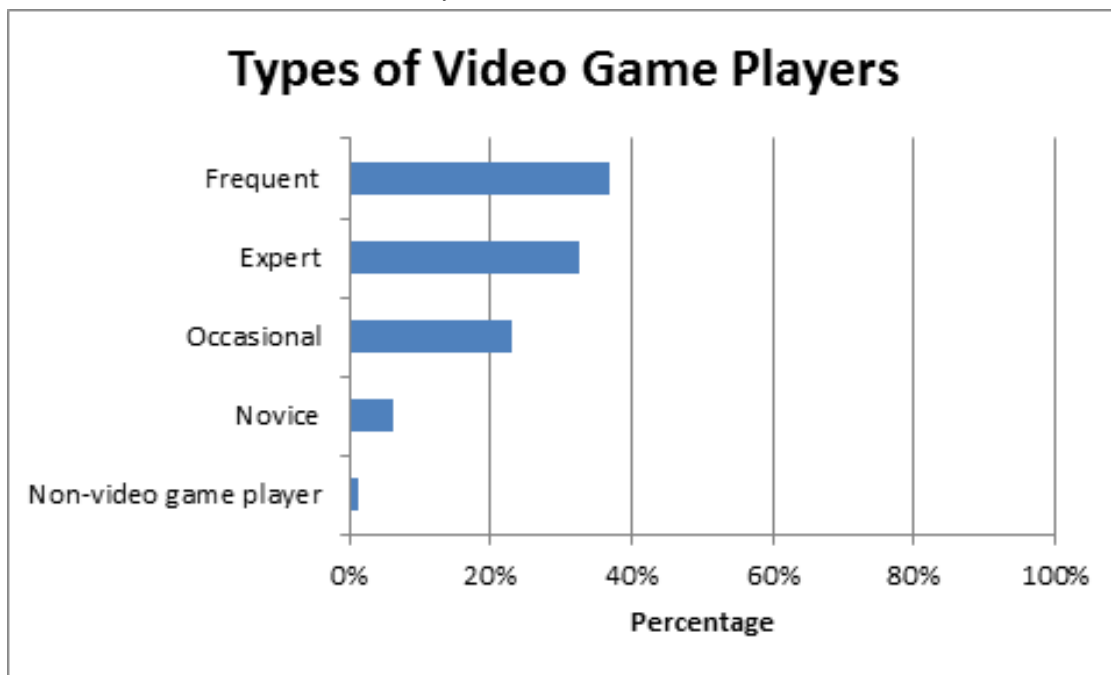
The majority of respondents started to play video games at a young age ( $M = 7.30$ ,  $SD = 3.23$ ). When respondents played video games they usually spent more hours per week playing games on a computer ( $M = 14.60$ ,  $SD = 18.74$ ) than on a console, mobile phone, or handheld device ( $M = 4.96$ ,  $SD = 7.61$ ) (e.g., XBOX 360, Playstation 3, Wii, DS, iPhone). Nearly half of the respondents indicated that they played video games less frequently than five years ago (see Figure 1). In addition, most of the respondents played violent video games (i.e., any games that have a main goal which is killing or injuring another character or player) more often than non-violent video games (see Figure 2). In general, respondents were more likely to consider themselves as either an "Expert" video game player or a "Frequent" video game player (see Figure 3). Interestingly, there were a small number of people (1%) indicated that they play video games, but they considered themselves as non-video game players.



**Figure 1. Percentage of respondents reporting their frequency of playing video games in comparison to five years ago.**



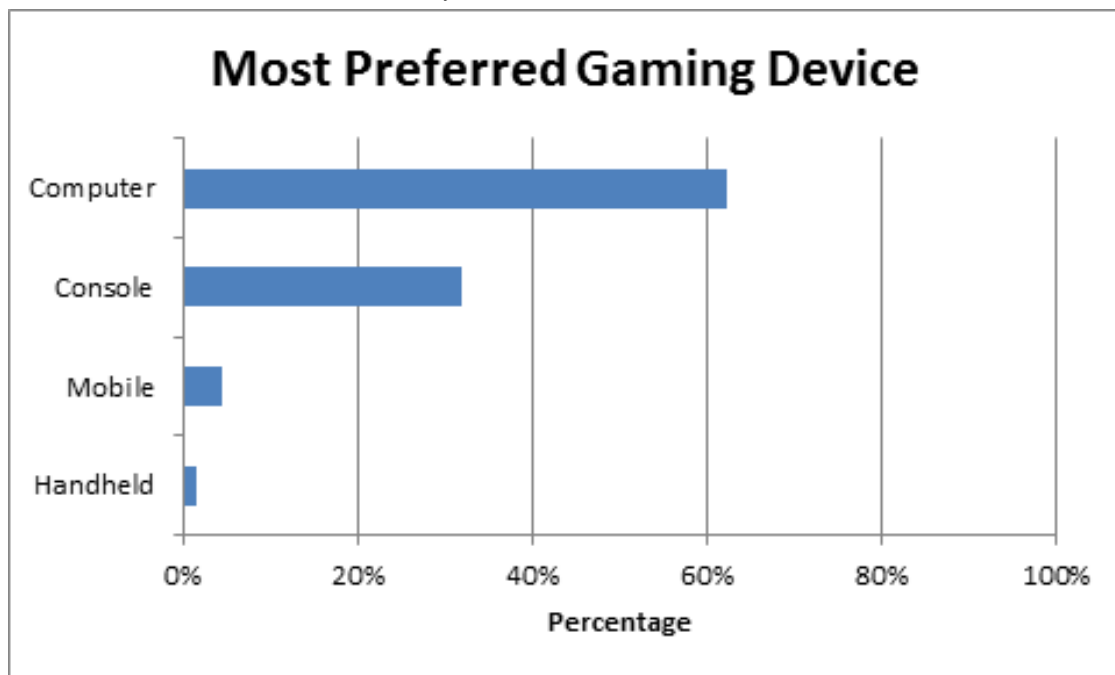
**Figure 2. Percentage of respondents reporting which type of video games (violent vs. non-violent) they played most often.**



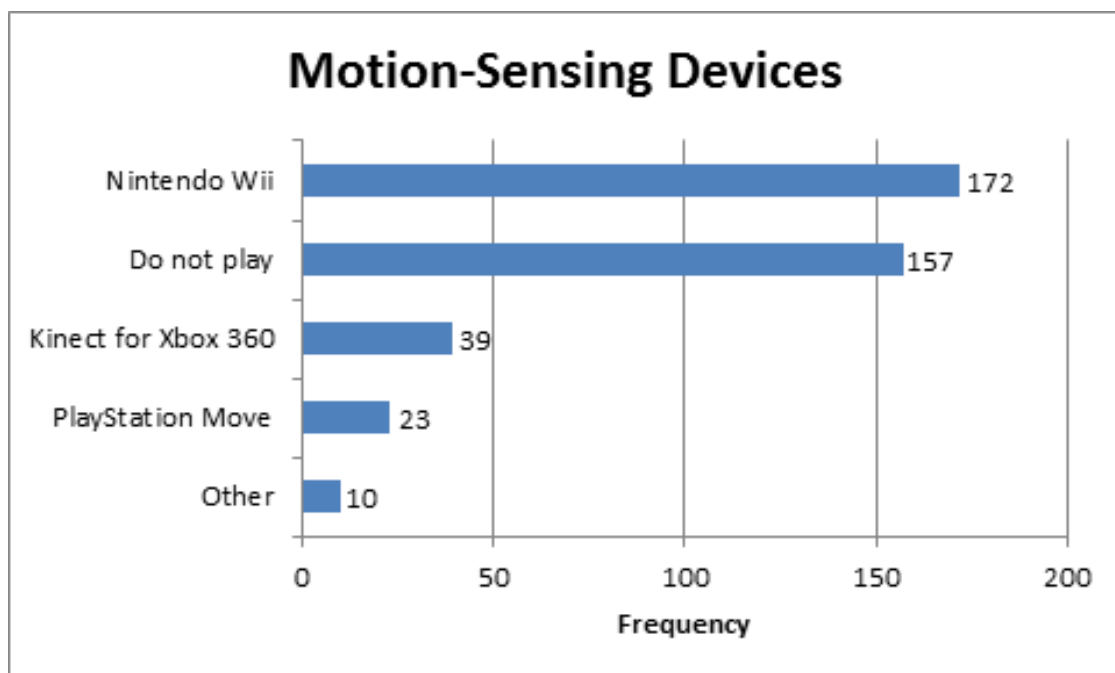
**Figure 3. Percentage of respondents classifying themselves as one of the five types of video game players.**

### Video Game Device Usage

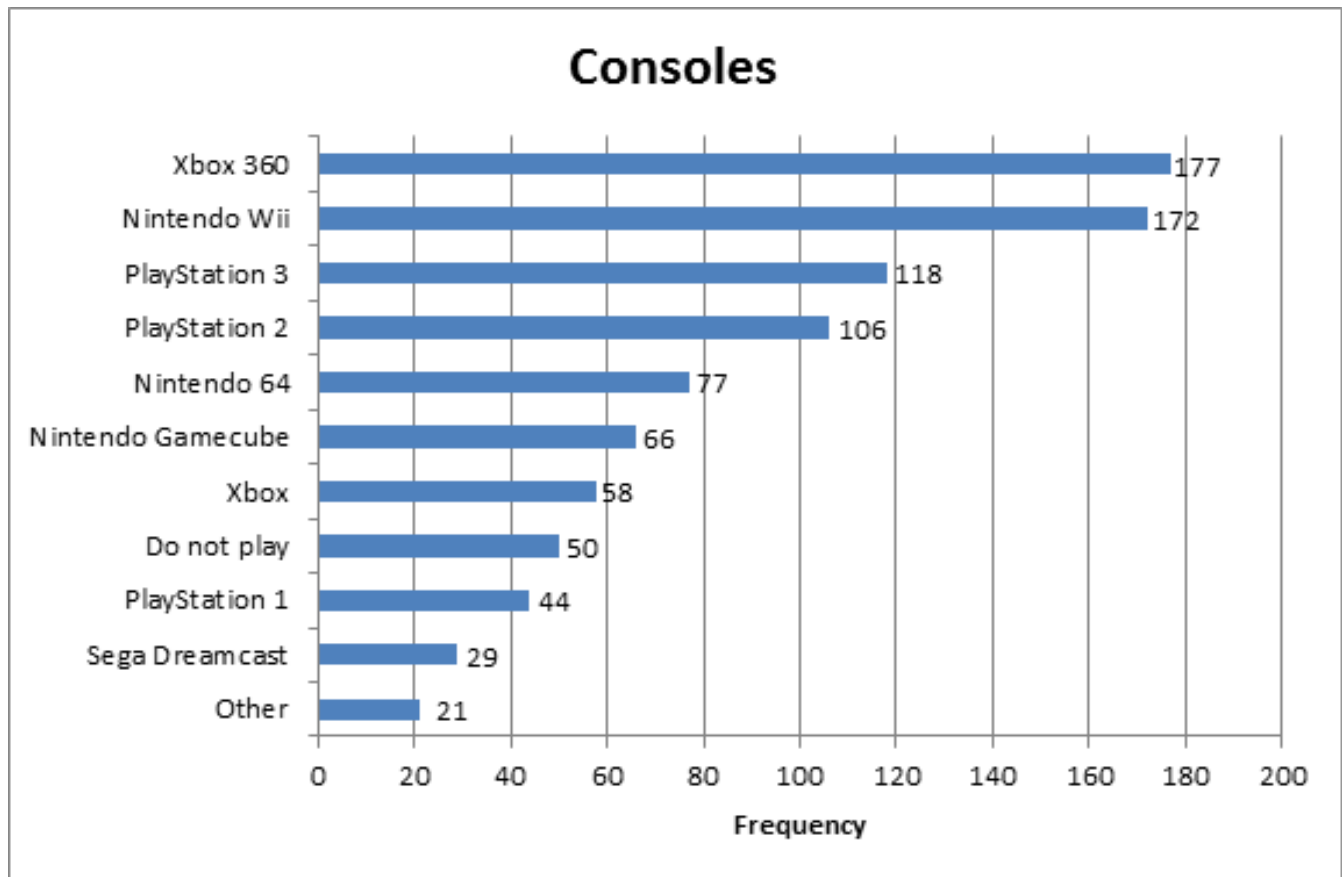
Respondents were asked to select their most preferred gaming devices (i.e., Computer, Console, Handheld, or Mobile). Overwhelmingly, respondents selected the computer as their most preferred device followed by the console (See Figure 4). In order to examine in detail the specific device(s) that respondents used to play video games, respondents were asked to select all of the devices they played games on from a list of device names. In terms of motion-sensing devices, respondents indicated that they played video games on the Wii the most (see Figure 5). For consoles, the top three popular devices to play games on were the Xbox 360, Wii, and PlayStation 3 (see Figure 6). Additionally, respondents reported their top three handheld devices as the Nintendo DS, Nintendo Gameboy Advance, and PlayStation Portable (see Figure 7).



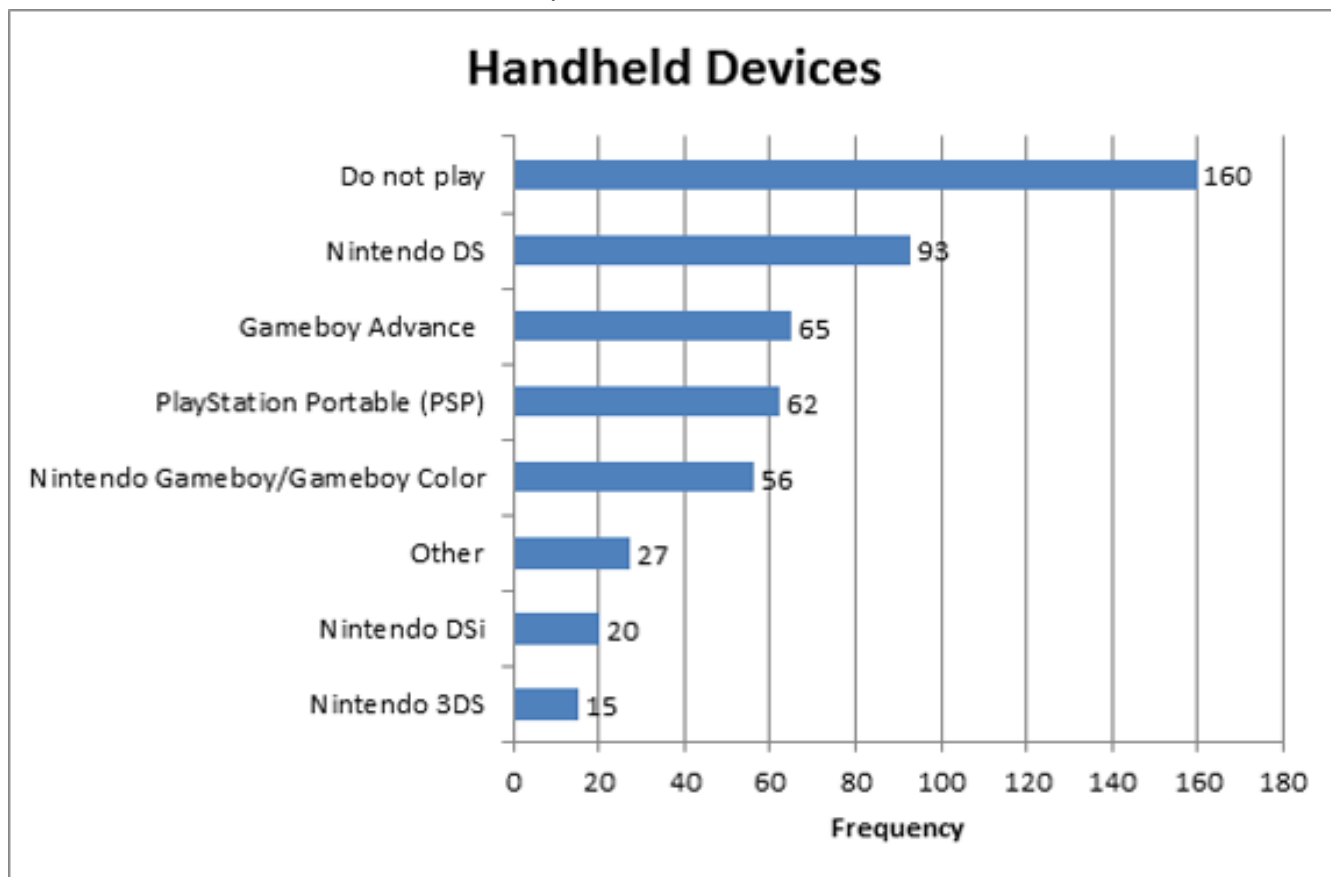
**Figure 4. Percentage of frequency for the most prefer device to play video games on.**



**Figure 5. The number of responses for the motion-sensing device(s) that was/were used to play video games.**



**Figure 6. The number of responses for the console(s) that was/were used to play video games.**



**Figure 7. The number of responses for the handheld device(s) that was/were used to play video games.**

### Video Game Preferences

Respondents were asked to indicate how frequently (i.e., "Never", "Rarely", "Sometimes", "Mostly", and "Always") they play games from 12 video game genres. The 12 video game genres and their examples are listed on Table 1. Respondents' reported frequencies were further organized into three groups: Never, Less Frequently ("Rarely" and "Sometimes"), and More Frequently ("Mostly" and "Always").

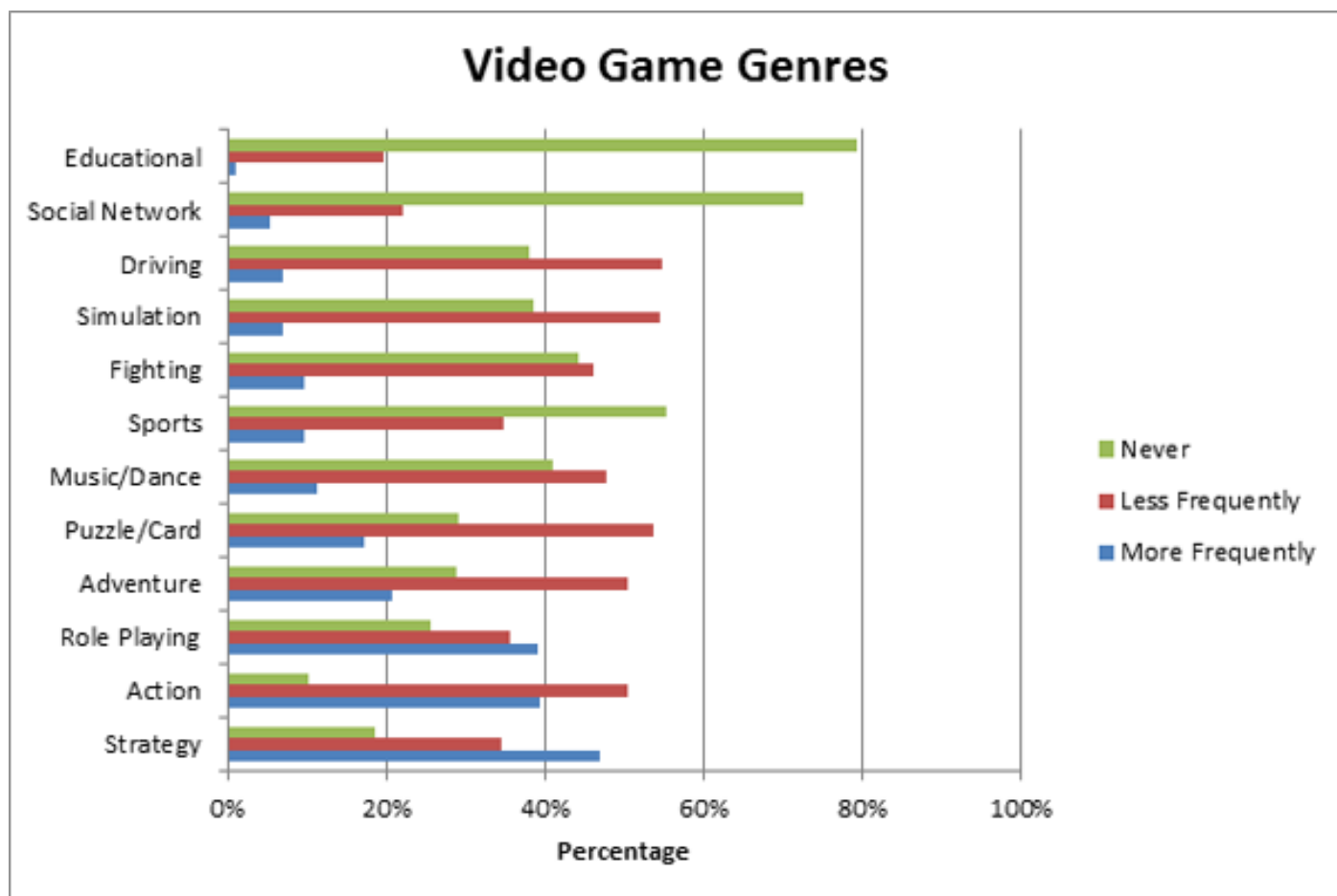
**Table 1. The List of Video Game Genres and Their Examples**

Genre	Examples
Action	Halo, Call of Duty
Simulation	The Sims, Spore
Driving	Forza, Test Drive
Puzzle/Card	Tetris, Poker
Role Playing	Mass Effect, World of Warcraft
Adventure	Myst, Resident Evil



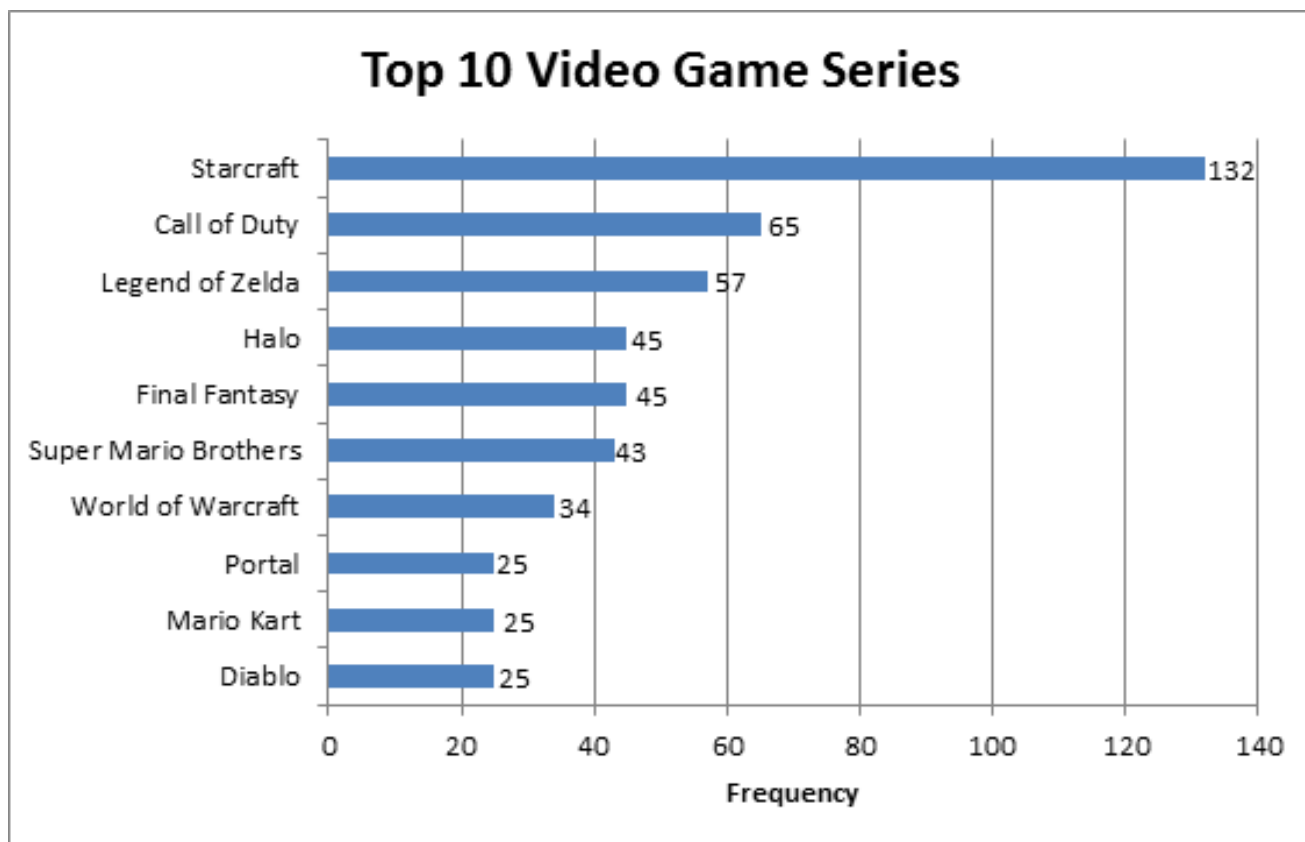
<b>Strategy</b>	Civilization, Warcraft
<b>Sports</b>	Madden NFL, NBA 2k11
<b>Fighting</b>	Soul Caliber, WWE
<b>Music/Dance</b>	Guitar Hero, Dance Dance Revolution
<b>Educational/Edutainment</b>	Democracy, Math Blaster
<b>Social Network</b>	Farmville, Empire & Allies

The top three game genres respondents reported to play more frequently are Strategy (47%), Action (39%), and Role Playing (39%). The top three game genres respondents reported to play less frequently are Simulation (55%), Driving (55%), and Puzzle/Card (54%). Last but not least, the top three games genres respondents reported not to play are Educational/Edutainment (79%), Social Network (73%), and Sports (55%). Figure 8 shows the reported frequencies for each of the 12 game genres.



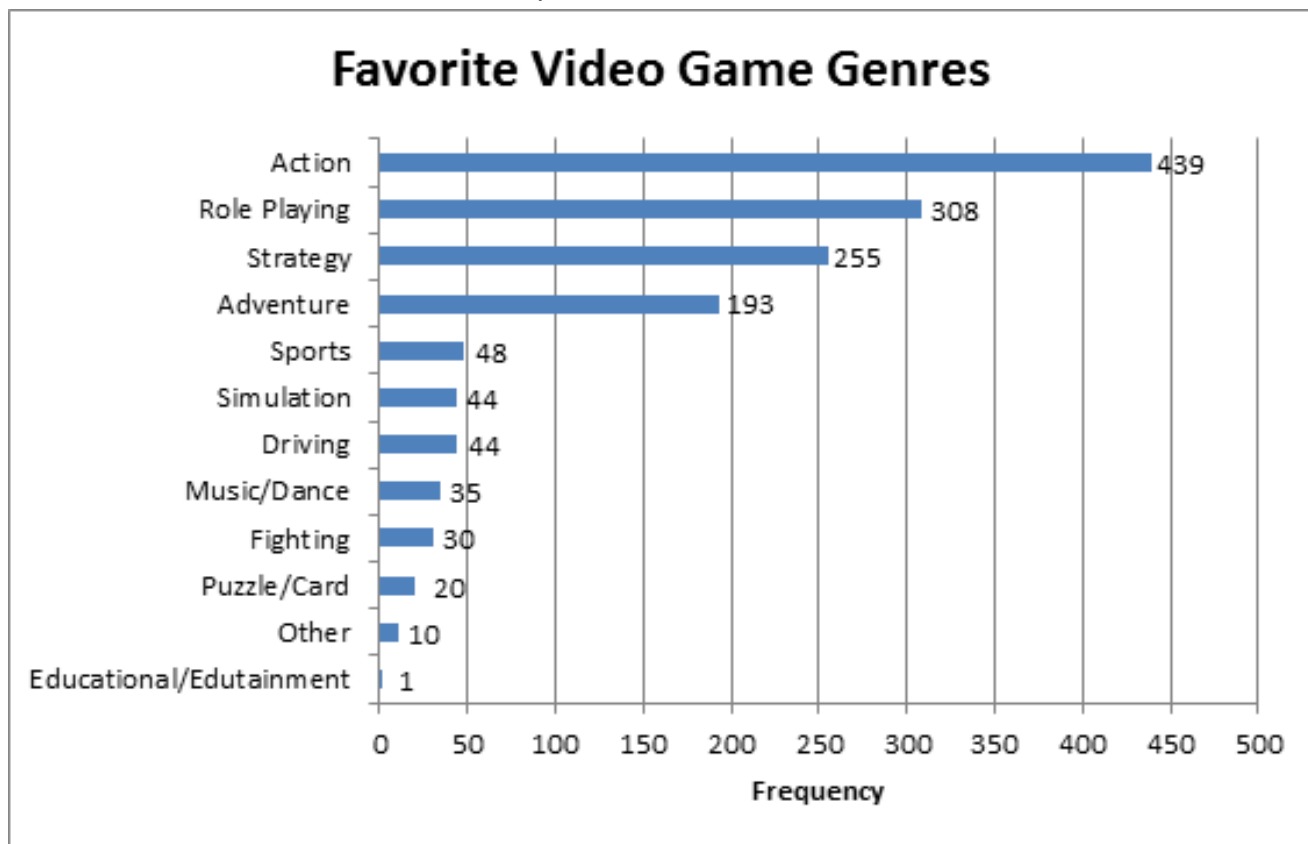
**Figure 8. Percentage of respondents reporting their frequency of playing games from 12 video games genres.**

Respondents were also asked to list their top five favorite video games in an open-ended question. Results reveal the top five most favorite game series to be *Starcraft* (Strategy), *Call of Duty* (Action), *Legend of Zelda* (Role Playing), *Halo* (Action), and *Final Fantasy* (Role Playing). Figure 9 shows the top 10 most favorite video game series. Of all of the favorite video games listed, the majority of the games fall into the following genres: Action, Role Playing, Strategy, and Adventure. Figure 10 shows the reported frequency of favorite games per video game genre.



**Figure 9. The reported top 10 most favorite series of video games.**

**Note:** Video games released under one general heading are considered part of a series. For example, *Call of Duty: Modern Warfare* and *Call of Duty: Black Ops* are considered part of the *Call of Duty* series.

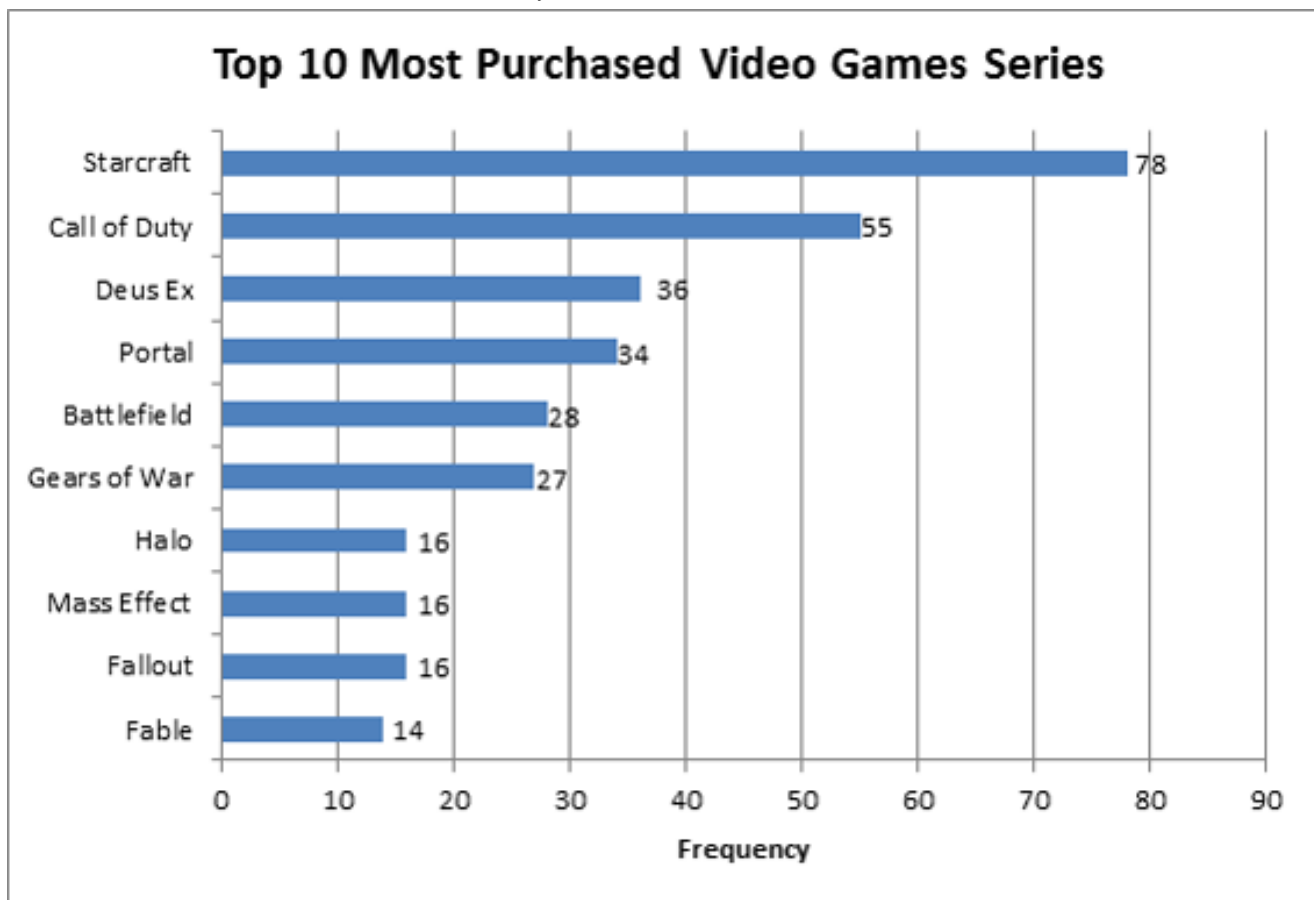


**Figure 10. The reported number of favorite video game genres.**

### Video Game Purchases

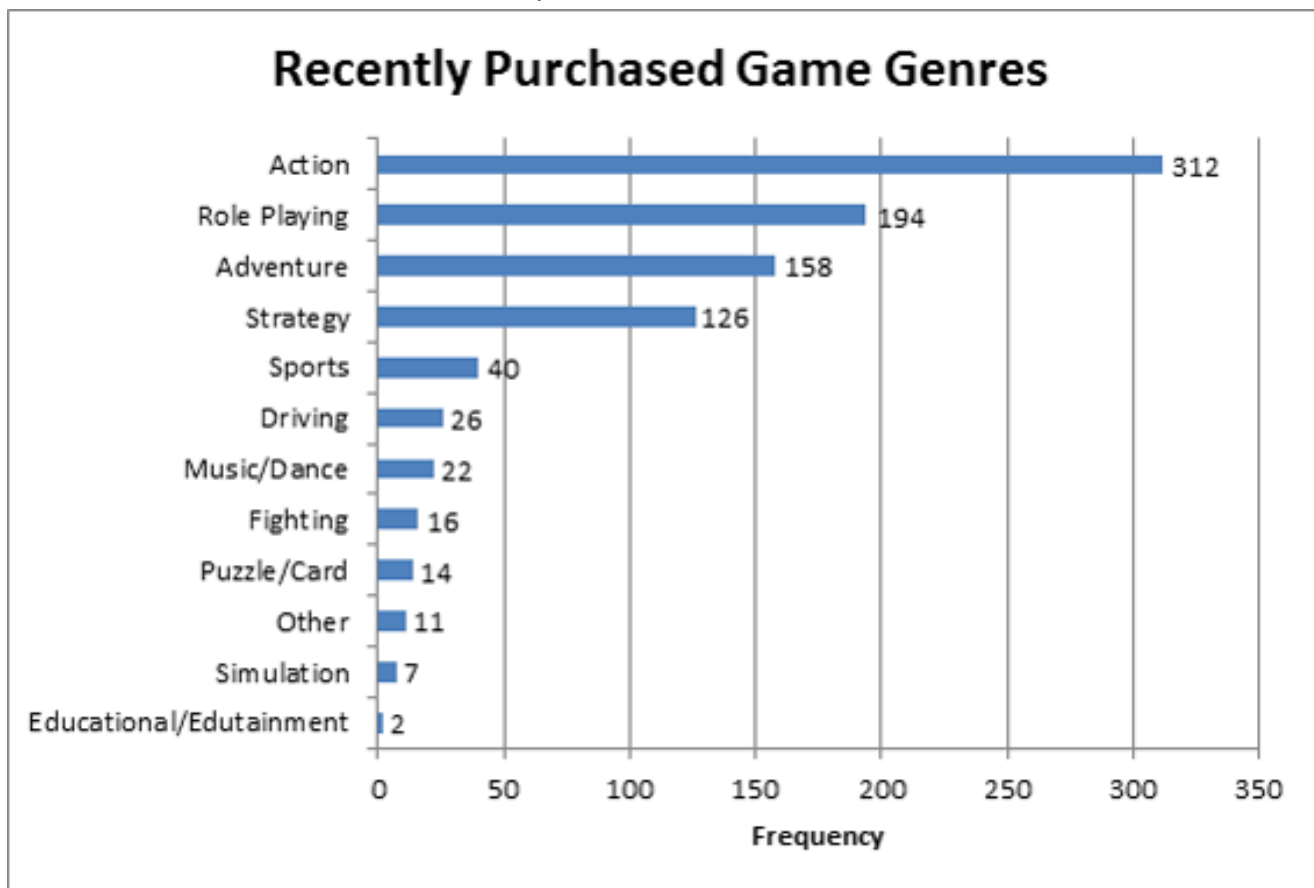
On average, video games players reported spending approximately \$269.52 ( $SD = 537.35$ ) per year on video games and video game-related purchases/merchandises (e.g., game magazine subscription, game membership/account). The range of money spent on video games is large, with some respondents reported not spending any money while some spent up to \$5,000 per year (or \$417 per month) on video games. In addition, it was of interest to determine the specific games that people were likely to purchase.

In an open-ended question, respondents were asked to list 1 to 5 video games that they have purchased within the past year. The top five most recently purchased video games reported are games from the following series: *Starcraft* (Strategy), *Call of Duty* (Action), *Deus Ex* (Adventure), *Portal* (Action), and *Battlefield* (Action). Figure 11 shows the top 10 series of video games respondents recently purchased. In general, people are most likely to purchase video games from the Action genre (see Figure 12).



**Figure 11. The top 10 most purchased series of video games within the past year.**

**Note:** Note: Video games released under one general heading are considered part of a series. For example, *Call of Duty: Modern Warfare* and *Call of Duty: Black Ops* are considered part of the *Call of Duty* series.



**Figure 12. The reported number of recently purchased video games per game genre.**

### Video Game Behaviors and Attitudes

In order to assess video game players' general attitude toward video games and their gaming behaviors, respondents were asked to evaluate 23 video game statements (Thornham, 2008) on a five-point Likert scale (1 = Strongly Disagree; 5 = Strongly Agree). Table 2 displays the 23 statements and their mean and standard deviation. With regard to the time of day video game players spent playing video games, respondents indicated that they are more likely to play video games during the weekends and evenings than during the day. Additionally, when these video game players played video games they tend to spend a lengthy time playing the games.

For many respondents playing video games is their main hobby. Many of them preferred to play video games versus watching television. These video game players also indicated that they usually spent more time playing video games than watching television or doing household chores. Despite spending a lot of time playing video games and reducing the time spent on other activities (e.g., doing household chores), many respondents do not feel guilty when they play video games.

Respondents revealed that they tend to play video games with other people and that they disliked being interrupted when they played. The same respondents also preferred to play non-physically interactive video games over games that involved a lot of physical movements or physically interactive video games (e.g., dance video games on the Wii or Kinect). Overall, many respondents agreed that there is an immersive aspect to playing

video games that can lead some of them to lose a sense of time when they played. However, according to these video game players, playing video games is not completely immersive in the sense that many of them would forget where they are or that they would lose a sense of their body when they played. Finally, these video game players valued their video game device(s) and would sell other belongings first before selling their device(s) if they were short on cash.

**Table 2. Means (*Ms*) and Standard Deviations (*SDs*) for the Ratings of 23 Video Game Statements**

<b>Statement</b>	<b>M (<i>SD</i>)</b>
<b>I tend to game during weekends.</b>	4.10 (1.07)
<b>I tend to game during evenings.</b>	4.03 (1.05)
<b>Gaming is totally immersive.</b>	3.71 (1.29)
<b>I spend more time gaming than watching TV.</b>	3.65 (1.57)
<b>I love my video game device(s).</b>	3.32 (1.34)
<b>I spend more time gaming than doing household chores.</b>	3.31 (1.54)
<b>I tend to game for long periods of time.</b>	3.31 (1.29)
<b>I mostly game with other people.</b>	3.26 (1.16)
<b>I prefer non-physically interactive games.</b>	3.22 (1.26)
<b>I hate to be interrupted when I game.</b>	3.12 (1.34)
<b>Gaming is my main hobby.</b>	3.09 (1.61)
<b>I mostly game on my own.</b>	3.05 (1.26)
<b>I often lose a sense of time when I play video games.</b>	3.04 (1.37)
<b>I tend to game during the day.</b>	2.71 (1.21)
<b>I have better things to do with my time than gaming.</b>	2.64 (1.26)

<b>If I was short of cash, the first thing I'd sell would be my gaming console(s).</b>	2.33 (1.28)
<b>I prefer physically interactive games.</b>	2.29 (1.07)
<b>I only play when other people are playing.</b>	2.24 (1.22)
<b>TV takes precedence over gaming.</b>	2.04 (1.25)
<b>I lose a sense of my body when I game.</b>	1.65 (1.02)
<b>I feel guilty when I game.</b>	1.60 (0.98)
<b>I forget where I am when I game.</b>	1.56 (0.91)
<b>I don't understand the attraction of gaming.</b>	1.40 (0.77)

**Note:** Respondents were asked to rate each statement on a five-point Likert scale (1 = Strongly Disagree; 5 = Strongly Agree).

## CONCLUSIONS

In general, the majority of people who played video games in this study were male while approximately 26% were female. Although many of the video game players were full-time college students, there were approximately 20% of those who played video games who were not college students. The majority of respondents have been playing video games for a long time and started playing video games at a young age (before 13 years old). Many respondents indicated that playing video games is their main hobby and that it takes precedence over other activities (i.e., watching television and household chores). On average, respondents spent more hours per week playing video games than watching television. In particular, many respondents preferred playing video games on the computer, and reported that they spent more hours playing video games on a computer than on other devices (e.g., consoles, handheld devices).

In addition, more respondents in this study classified themselves as an "Expert" or "Frequent" video game players rather than "Occasional", "Novice" or "Non-video game player". These video game players reported that they played violent video games more frequently than non-violent video games, and that they were more likely to play video games from the Strategy, Action, and Role Playing genres than other genres (e.g., Sports, Driving). Not surprising, respondents' top three favorite video game genres also corresponded with their top three most frequently played video game genres. Respondents who played video games on a console tended to use the Xbox 360 console, the Wii motion-sensing console, and/or the Nintendo DS handheld device.

Finally, there was a wide range in which people spent money on video games, with some reported spending hardly any money while some spent as much as \$5,000 per year. On average, video game players spent close to \$270 per year on video games and video

game-related merchandise. Overall, these video game players tended to purchase games from the Action (e.g., *Call of Duty* series, *Portal* series, and *Battlefield* series), Role Playing (e.g., *Mass Effect* series, *Fallout* series, *Fable* series), Adventure (e.g., *Deus Ex* series), and/or Strategy (e.g., *Starcraft* series) genres.

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