Imagine you are working on a research paper about the **effects of playing video games**. Read the three information sources that follow this page and keep the CAARP model in mind as you review each source.

**Remember:**
C = Currency  
A = Authority  
A = Accuracy  
R = Relevance  
P = Purpose

For the third and final source you will see the address (URL) of a website. Click on that link to be taken to a website. Please review the website as a whole for your third and final source.

To complete your assignment, go to: [http://library.uncw.edu/instruction/UNI_library_assignment](http://library.uncw.edu/instruction/UNI_library_assignment). Login at the bottom of the page and follow the directions to **answer questions about each information source**.
Call of (civic) duty: Action games and civic behavior in a large sample of youth

Christopher J. Ferguson*, Adolfo Garza

Texas A&M International University, United States

**ABSTRACT**

The positive and negative influences of violent/action games, henceforth called “action games”, remains controversial in the scholarly literature. Although debate continues whether action games influence aggressive behavior, little research has examined the influence of action games on civic engagement. The current study addresses this gap by examining the correlation between exposure to action games on civic engagement and on-line prosocial behavior in a sample of 873 teenagers. Results indicated that girls as well as teens who had parents who were more technologically savvy tended to engage in more civic behaviors. Exposure to action games predicted more prosocial behavior on-line, but did not predict civic engagement either positively or negatively. However, exposure to action games and parental involvement interacted to promote youth civic engagement. Action-game-playing-youth whose parents were involved in game play and supervision were most civically involved, compared to youth who did not play action games, or whose parents were less involved. These results indicated little support for the belief that exposure to violence in video games decreases prosocial behavior and/or civic engagement. Conversely some support was found for the possibility that playing action games is associated with small increased prosocial behavior and civic engagement in the real world, possibly due to the team-oriented multiplayer options in many of these games.

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1. Introduction

The issue of violent content in video games remains controversial in the scholarly literature. In 2005, the American Psychological Association (APA) released a committee statement concluding that exposure to violent or action video games (henceforth referred to as “action games”) are linked with aggressive behavior. However, other scholars have expressed skepticism with this view and concern that the APA statement exaggerates the strength, consistency and validity of much of the extant work in this field. For example, scholars have expressed concern with: (1) the validity of the measures used in many of the studies (Ferguson, 2010; Freedman, 2002; Ritter & Eslea, 2005); (2) failure to control adequately for “third” variables (Kutner & Olson, 2008; Savage & Yancey, 2008); and (3) misleading statements falsely equating the effect size of such research with medical effect sizes (Block & Crain, 2007; Ferguson, 2009). Empirical evidence for harmful action game effects has been mixed (see Ferguson, 2010; Kutner & Olson, 2008 for comprehensive reviews). It is likely that debate on the deleterious effects of action games on aggression will continue into the foreseeable future. Relatively less often considered is the potential impact of action games on civic engagement or participation in helping others and building community. The current study seeks to fill this gap by examining the influence of action games on civic engagement and on-line prosocial behavior in a large sample of youth.

1.1. Action games and civic engagement: Whence forth art thou correlation?

There is little question that the past few decades have seen an explosion in the popularity of video games and a concurrent increase in their sophistication and graphicness. Several incidents of mass-school-shootings by teenage boys, who were avid gamers, led to claims by some, that violent content in action games may be creating a general meanness among youth, which could spill over into violence (e.g., Thompson, 2007). Nonetheless, since the early 1990s, violent behaviors among youth have decreased precipitously, as shown in Fig. 1 (Childstats.gov., 2010), rather than risen, largely contradicting fears of a mass wave of juvenile super-predators (Muschert, 2007).
Data on civic engagement over the same period is less clear. Trends in youth-civic-engagement depend upon the type of civic behavior examined. For instance, Syversten, Wray-Lake, Flanagan, Briddell, and Osgood (2008), found that youth participation in “conventional” civic activities (participation in government, writing to a public official, etc.) has decreased over time. However, participation in community service (activities which directly help others in the local community) has increased over time. From these results, we see that youth are increasingly active in helping others, but show decreased engagement with government and the political process. Not surprisingly, trust in government among youth is relatively low. A recent report by the Girl Scouts (2009), surveying approximately 3000 teen boys and girls, found that civic engagement, including participation in political processes, giving to charity and involvement in community service was up from 20 years previously. Although these studies do not specifically look at the impact of video games, they appear to make clear that in the “video game era” youth-civic-engagement has risen, possibly excluding involvement in government.

Relatively little research has examined the impact of video games on civic engagement. Perhaps, the best known such study is by Lenhart et al. (2008), at the Pew Internet and American Life Project. This survey of 1102 youth found that video game and internet use was very common among youth, and such activities tended to be highly social. Little evidence emerged to suggest that video games negatively influenced civic engagement. Nevertheless, the data analysis did not specifically examine action games; therefore, the potential remains that action games may have some influence, whether positive or negative, on civic engagement.

The discussion of the potential impact of action games on civic engagement has not yet seen any consensus. Writing recently, Bers (2010), suggested that many video games, including some action games, may increase civic engagement. Olson (2010) has similarly concluded that action game use is part of normal and healthy child social development, particularly for boys. Williams (2006) examined the civic behaviors of players of the massively multiplayer on-line game (MMO) Asheron’s Call 2, which has some violent content, reporting mixed results. Although some forms of civic engagement improved, he also found that real-life social behaviors tended to erode over time. Yee (2006) found that social and civic motivations are significant for on-line games in particular, despite that many on-line MMO games contain violence. These results were later confirmed by Williams, Yee, and Caplan (2008), who found that social interaction and civic connection was one of several principal motivations for MMO use.

By contrast, advocates of the view that action games are harmful have sought to link violence in games with reduced prosocial and civic behavior. Unfortunately, one of the approaches commonly used is to compare the relative influence of “prosocial” video games and “violent” video games. Gentile et al. (2009) provide an example of the fraught nature of this approach. Gentile and colleagues asked participants to list several of their favorite games and rate them on violence and prosocial content. The authors then calculated separate “prosocial” and “violent” variables, which they entered together in regression analyses. The authors noted that “Although prosocial and violent game exposure were highly correlated, most likely because of the way they were measured, multicollinearity did not unduly influence the regression coefficients (i.e., variance inflation factors were less than 10)” (p. 756). In fact, entering two highly correlated variables together in a regression equation is highly likely to produce spurious multicollinearity effects. Contrary to the authors’ assurance that multicollinearity effects are negligible, it seems apparent that variance inflation factors (VIF), which are “less than 10”, are likely near to that figure of 10 (the authors do not report the exact VIF figures, but one presumes they would have noted lower figures had they achieved them); VIF figures near 10 are actually highly indicative of multicollinearity. Indeed, although no precise VIF value is agreed upon for evidence of multicollinearity (Keith, 2006), it is the experience of these authors, that VIF values above three are worrisome indicators of multicollinearity; thus, the assurance that the VIF figures are “less than 10”, is not much assurance at all. Furthermore, despite that the two variables are in fact highly correlated, they produced standardized regression coefficients that are both large (βs > above .40 for helping behavior and empathy) and in opposing directions. High VIF values and highly correlated variables, which produce opposing multivariate effects, are classic indicators of “bouncing beta” phenomenon... that is, spuriously high standardized regression coefficients produced by multicollinearity rather than true effects. Unfortunately, Gentile et al. (2009) appear not to have attended carefully to this possibility.

That Gentile et al. (2009) found results indicating that “prosocial” and “violent” game play is highly correlated, is not surprising. Indeed, many action games include both violent content and a prosocial focus. Many action games involve themes of helping others, rescuing hostages, saving princesses, defending one’s home, etc. Further, many on-line action games involve team play in which groups of players must cooperate and work together toward a common goal. The “raids” in World of Warcraft would be such an example (Barnett & Coulson, 2010), as would team action in many first-person-shooter type games, such as the Call of Duty or the Medal of Honor series. Given the concerns about multicollinearity, attempting to include “prosocial” and “violent” game conditions together in multivariate analyses are likely to produce misleading results and should be avoided in the future.

1.2. The current study

From the literature described above, it remains clear that there is much research yet to be done regarding the influence of action games on civic engagement. Perhaps, the most comprehensive such study is Lenhart et al. (2008); as discussed above, although their data analysis strategy did not specifically examine action games, rather looked at video games more broadly. However, the data available in the Lenhart et al. (2008) survey do ask youth to report on their top three video games recently played. It is possible to get violence ratings on these games in order to get an overall estimate of violent content exposure and examine its influence on youth-civic-engagement. The current study uses data provided by the Pew Internet and American Life Project and data reported in Lenhart et al. (2008), for further analysis of action game effects.

1.2.1. Study aims

The purpose of the current study is to examine the relationship between exposure to violence in action games and youth involvement in civic behaviors both off-line and on-line. In particular, the goal of the current study is to examine this relationship when
other potential predictors, such as gender, age or parental involvement are controlled. Multivariate analyses of this nature are important when examining video game effects, as it is known that variables as simple as gender can inflate video game bivariate correlations (given that boys tend to play more video games and more video games with violent content than girls).

Given that the current analysis employs an existing dataset, the current analysis is probably best considered exploratory rather than theory driven. That is to say, variables included in the analysis were included due to their availability in the existing data set, rather than developed and included a priori based on a theoretical perspective. Nonetheless, given this is a relatively new research field, an exploratory analysis can be potentially illuminating.

2. Method

2.1. Participants

The Lenhart et al. (2008) database consists of 1102 youth between the ages of 12 and 17 (M = 14.6, SD = 1.7). The sample was almost equally divided among boys and girls (50.5–49.5%, respectively). Families were contacted through a random-digit dialing approach; thus, achieving a random nationally representative sample. A full discussion on the sample and sample recruitment is available in Lenhart et al. (2008). Full data on all included measures in the current analysis were available for 873 youth from this sample.

2.2. Measures

Several measures were constructed from the items on the Lenhart et al. (2008) survey, based upon content domain and internal reliability. Items were Likert-scale in nature, except where noted below. The scales constructed included two parent-related variables to serve as control variables, as well as two civic related youth behavior outcome variables, and as the violent content exposure variable.

2.2.1. Parent involvement (PI)

A scale of parental involvement in the youth’s gaming behavior was constructed from four items. Examples of items on this scale asked parents how often they do certain actions such as, “Do you know which games your child is playing?” and “Do you play the games with him/her”. Coefficient alpha for this scale was .56.

2.2.2. Parental tech savvy (PTS)

A scale measuring the degree to which parents were comfortable with technology such as computers and cell phones was constructed from four items. Sample items include, “Do you use the internet, at least occasionally?” and “Do you have a cell phone?” This scale required all yes/no answers. Coefficient alpha for this scale was .74.

2.2.3. Violence exposure in action games

In the current analysis, exposure to violent content was measured in a similar way to the approach used by Lenhart et al. (2008), examining the games teens play (as noted earlier, Lenhart et al. (2008), did not correlate violent content with civic engagement in their report). As stated earlier, teens were asked to report on the top three games they regularly played. We obtained an estimate of their violent content by using the Entertainment Software Ratings Board (ESRB) ratings for each game. Commonly in research, children are asked to rate the violent content of games they play; however, each child may have a different perception of what constitutes violence. Following are three pertinent advantages for using the ESRB ratings: (1) the ratings are consistent across games, employing trained raters; (2) the rating system has been widely praised for accuracy by the Parents Teachers Association (PTA), the Federal Trade Commission and even anti-game violence “watchdog” groups, such as the National Institute of Media and Family; and (3) researchers have used the ESRB ratings reliably and validly to measure violence content in past research (Kutner & Olson, 2008; Olson et al., 2009). Similar to the approach used by Lenhart et al. (2008) in their descriptive analysis of games teens play, games were coded according to their rating (1 = EC, 2 = E, 3 = E10+, 4 = T, 5 = M, and 6 = AO). These ratings were summed and multiplied by the child’s reported frequency of game play to comprise the exposure variable. In some cases child gave vague responses (e.g., “racing game”, “the game with the aliens in it”) or referred to a game that could not be located in the ESRB rating system. Since a violence exposure variable could not be reliably constructed from such responses, these cases were eliminated from the analysis. One hundred and twenty three cases were designed to have given at least one vague or difficult game to reliably rate and thus were dropped from the analyses.

2.2.4. Youth civic engagement

A scale of youth-civic-engagement was formed using five items related to behavior (e.g., “I have volunteered in my community”) and five items related to civic attitudes (e.g., “Being actively involved in national, state and local issues is my responsibility”). Coefficient alpha for the resultant ten-item scale was .66.

2.2.5. On-line prosocial behavior

A scale of youth-prosocial-behavior, while on-line, was compiled from six items related to helping behavior on-line and engagement in community activities on-line. Examples include, “When you play computer or console games, how often do you help or guide other players?” and “When you play computer or console games, how often do you organize or manage game groups or guilds?” Coefficient alpha for this scale was .66.

2.3. Data analytic strategy

Primary data analysis consisted of multiple regression analyses. Age and gender were entered earliest in the regression model, followed by the parental control variables, followed by violence exposure in action games. Further, an interaction variable between parental involvement and violent game exposure was constructed, as it was thought that parental involvement might positively mediate any effects of violence exposure. To avoid multicollinearity problems that commonly accompany interaction terms in regression equations, the parental involvement and violence exposure variables were first centered. Then, they were multiplied to form the interaction term. Two separate multiple regressions were run, with civic engagement and prosocial on-line behavior as outcomes. Collinearity statistics were all acceptable, with VIF and tolerance statistics reported below for each regression.

3. Results

A table of bivariate correlations among predictor and outcome variables is presented as Table 1. Several correlations, while not part of our main analyses, bear noting. First, parental involvement with their children’s gaming was less for older teens (r = .27) and for girls (r = -.12). Second, parental involvement in children’s gaming was actually related to a slight increased exposure to violence in games (r = .10). This would appear to be the opposite of what anti-violence “watchdog” groups may hope for. However, this observation may fit well with previous observations that parents...
who are involved with their children’s gaming experience, tend to become more comfortable with action games, even when the games contain violence (Kutner, Olson, Warner, & Hertzog, 2008). Ivory and Kalyanaraman (2009), similarly found that direct experience with specific action games tended to reduce concerns that those games would lead to increased aggression; therefore, parents who involve themselves in their children’s gaming experiences, may find action games less worrisome. Finally, as has been observed previously (Ferguson, San Miguel, & Hartley, 2009; Kutner & Olson, 2008), girls tend to be exposed to less violence in video games than boys \((r = -.45)\). The strength of these gender effects highlights the importance of controlling for gender, among other variables, when examining relationships between video game violence and outcome variables. Over reliance on bivariate correlations is likely to exaggerate any effects, which may simply be due to gender differences. For instance, it is well understood that, as boys both play more action games and are more aggressive, bivariate correlations between game violence and outcomes may be spurious, due mainly to an underlying gender effect (Ferguson, 2010; Kutner & Olson, 2008).

The first multiple regression involved civic engagement as the outcome variable. Collinearity statistics were all acceptable, with VIF statistics all below 1.5 and tolerances above .70. Results are presented in Table 2. Civic engagement was significantly higher among girls \((\beta = .08)\), among older children \((\beta = .08)\) and among children whose parents are technologically savvy \((\beta = .12)\). Exposure to violence in games was not related to civic engagement \((\beta = -.02)\) although the interaction between parental involvement and violence exposure was significant \((\beta = .07)\). Teens whose parents were more involved in gaming and who also played more action games were more civically involved than their peers whose parents were not involved or who played fewer action games.

The second multiple regression involved prosocial on-line behaviors as the outcome variable. Given that the outcome variable is specifically related to on-line prosocial behavior, unlike the previous outcome, it was considered possible that violence exposure might be confounded with general video game use. In other words, action gamers may engage in more prosocial on-line behaviors simply because they were on-line more often. To control for this possibility, we included total time spent using video games as a control variable. This elevated the collinearity diagnostics slightly, with the highest VIF at 2.2 and lowest tolerance at .45. These levels are still considered acceptable (Keith, 2006). Even so, to clearly eliminate the possibility of multicollinearity, the regression was rerun without the total time gaming variable. This did not substantially change the results. Results are presented in Table 3. Violence exposure in video games predicted prosocial behavior on-line \((\beta = .16)\), and did so even when the total time spent gaming \((\beta = .11)\) was controlled. This relationship is in a positive direction, suggesting that the use of action games is associated with greater prosocial behavior on-line. Older children were also less likely to behave prosocially on-line \((\beta = -.08)\).

4. Discussion

Several important findings emanate from the current study. First, related to civic engagement, violence in action games was not found to correlate with civic engagement; however, the interaction between parental involvement and violence exposure was significant. Children who played more action games displayed greater involvement in civic engagement than their peers if their parents were involved in playing with them and supervising their game play. Taken together, this suggests that parental influences are most important in encouraging civic engagement; therefore, playing action games together may promote civic engagement. Related to prosocial on-line behavior, exposure to violence in action games was related to increased prosocial behavior even when total game time was controlled. It should be noted that the effect sizes of these relationships were very small, and causation cannot be asserted from the results of a correlational study. It is important not to overinterpret very small effect sizes of this nature. Nonetheless, these results lend support to optimistic views about the role of video games in youth civic and prosocial development (e.g., Bers, 2010; Olson, 2010; Simkins & Steinkuehler, 2008; Steinkuehler & Williams, 2006). Perhaps, more importantly, they clearly offer no support for pessimistic views that would link playing action games including violent content with decreased civic or prosocial behaviors.

<table>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<td>–.04</td>
<td>–.27 (^*)</td>
<td>.01</td>
<td>–.01</td>
<td>.09 (^*)</td>
<td>–.07</td>
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<tr>
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<td>–.12 (^*)</td>
<td>–.07</td>
<td>–.45 (^*)</td>
<td>.06</td>
<td>–.02</td>
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<td>.10 (^*)</td>
<td>–.01</td>
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<td>Parental tech savvy</td>
<td>1.00</td>
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<td>–.10 (^*)</td>
<td>–.02</td>
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\(^*\) \(p < .01\).

<table>
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<th>(\beta)</th>
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<td>Interaction term</td>
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\(F(6,872) = 4.30, p = .001, R^2 = .17, \text{Adjusted } R^2 = .02.\) Note: Interaction term is for parental involvement \(\times\) violence exposure.

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<th>(\beta)</th>
<th>(t)</th>
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\(F(7,848) = 2.48, p = .02, R^2 = .14, \text{Adjusted } R^2 = .01.\) Note: Interaction term is for parental involvement \(\times\) violence exposure.
Part of the misunderstanding about action games is the failure to recognize that, even though many games contain violence, they still offer opportunities for prosocial and civic behaviors. Thus, the categories of “violent” and “prosocial” video games may just not be mutually exclusive but, in fact, may tend to go hand in hand. Games of both the first-person-shooter genre and the MMO genre not only offer a multitude of activities for assisting other players with difficult missions or getting used to the pitfalls of the game, but also offer multiple opportunities for team-oriented play in which individuals players must work together toward a single goal (Barnett & Coulson, 2010). On a more practical level, attempting to parse out separate “violent” and “prosocial” game categories may be highly misleading, increasing multicollinearity effects in multivariate analyses and misinforming rather than informing the scholarly community. This is particularly true in a research field which is already experiencing difficulties with a high degree of politicization in which the rhetoric of some scholars vastly exceeds the quality, strength, consistency and validity of the available data (Ferguson, 2010; Grimes, Anderson, & Bergen, 2008; Kutner & Olson, 2008; Sternheimer, 2007).

As noted in the results, parental involvement is actually associated with children’s increased participation in action games with violent content. This may, on first blush, seem paradoxical, when parental involvement is so often thought of as restricting. Yet, as indicated earlier, it is likely that parents who become familiar with gaming experience are less concerned with the content of the games (Ivory & Kalyanaraman, 2009; Kutner, Olson, Warner, & Hertzog, 2008). It may be very easy for parents to express concerns about action games when they are not familiar with the games, coupled with the news media which tend to focus on extreme arguments about their alleged harm (e.g., Thompson, 2007). Several scholars have already argued that concerns about action games and media violence in general, thrive in an atmosphere of “moral panic”, to which some other scholars contribute (Ferguson, 2010; Gauntlett, 1995; Kutner & Olson, 2008). It appears that parental involvement decreases the restriction of violent content. Even though speculative, it may be that many parents decide that the reasonable response is to allow for continued play of action games, if with parental involvement and supervision.

As with any study, the current one has limitations. Given the correlational nature of the study, causal attributions should not be made. Effect sizes found for statistically significant results were also very small and should not be over interpreted. Although the current multivariate analysis included several relevant control variables, it would have been desirable to have more. For instance, we had no data on child’s personality or peer influences. Moreover, although the Lenthart et al. (2008) dataset did have several questions related to parental involvement in civic behaviors, the reliability of the scale comprising these items was very low and not acceptable for inclusion in regression. It would have been ideal to control for parental influences via parents’ own involvement in civic behaviors, but the current dataset did not allow for this.

Regarding future directions, we first offer a cautionary note. Our concern is that the field of study for action games and civic engagement, although fairly sparse, has gotten off to a clumsy start, damaged by multicollinearity effects in some studies, and influenced by anti-game ideological perspectives wedded to the social learning paradigm in others. With this in mind, we urge all researchers to explore multicollinearity effects with greater care, particularly when examining both “violence” and “prosocial” game content, as well as when using interaction terms. Further, we express the concern that theory has actually been damaging, rather than helpful in this realm, particularly when the theories involved have become dogmatic and the process of scientific inquiry is akin to pounding square empirical pegs into round theoretical holes (Ferguson, 2010; Grimes et al., 2008; Kutner & Olson, 2008). Therefore, we argue for a move away from theory, at least for the moment, and toward basic data-driven research. That having been said, more research on the impact of action games on civic engagement would certainly be welcome, especially those studies employing longitudinal designs and those controlling well for parental, personality and peer influences on civic behaviors.

References


Girl Scout Research Institute. (2009). Good intentions: The belief and values of teens and toward basic data-driven research. That having been said, more research on the impact of action games on civic engagement would certainly be welcome, especially those studies employing longitudinal designs and those controlling well for parental, personality and peer influences on civic behaviors.


How Bill Gates built his new game machine--and changed your living room forever

Bill Gates' time is valuable. There are Microsoft employees who wait their whole career to be alone with Gates for 45 minutes. As the richest man in the world and, arguably, the greatest philanthropist in history, at any given moment Gates could and probably should be off feeding the hungry or curing some horrible disease.

But he isn't. Instead he's sitting in a suite at the Las Vegas Hilton wearing a sweater vest and talking about video games and laughing his head off. Gates is here for a trade show and to talk up Microsoft's new video-game console, the Xbox 360. In person Gates is not at all the stiff, unsmiling mandroid people make him out to be, or at least he isn't at this exact moment. He's loose and happy, cracking jokes and making fun of himself and talking smack about his competitors. True, his hair is weird, and his voice sounds as if still changing even though he's 49. But he seems different. Funkier. "I feel sort of unleashed," is how he puts it. Somehow humanity's most famous nerd has become kind of cool.

It's a decent metaphor for what Microsoft is trying to do in making the Xbox 360. Microsoft, known more for its bullying business tactics than its technological innovation, is trying to act in a very un-Microsoft fashion. It's trying to be quick and nimble, radically innovative, and play well with others. It's trying to reinvent itself from the corporate DNA on up.

But this isn't just a story about Microsoft. It's also a story about a sea change in American culture, which has embraced video games, formerly a despised hobby, as a vital force in pop culture. Gates and his team have spent the past 3 1/2 years working in obsessive secrecy to build the greatest piece of game-playing hardware the world has yet seen. And they don't want to sell it just to a niche audience: they're gunning for all of us.

It's a decent metaphor for what Microsoft is trying to do in making the Xbox 360. Microsoft, known more for its bullying business tactics than its technological innovation, is trying to act in a very un-Microsoft fashion. It's trying to be quick and nimble, radically innovative, and play well with others. It's trying to reinvent itself from the corporate DNA on up.

But this isn't just a story about Microsoft. It's also a story about a sea change in American culture, which has embraced video games, formerly a despised hobby, as a vital force in pop culture. Gates and his team have spent the past 3 1/2 years working in obsessive secrecy to build the greatest piece of game-playing hardware the world has yet seen. And they don't want to sell it just to a niche audience: they're gunning for all of us.

Even more than that, this is a story about a stealthy technological revolution that has taken place over the past five years, with very little fanfare, and is turning the U.S. living room into a digital, wireless, networked nerve center. You may think the Xbox 360 is a game machine--a toy--but if it does what it's supposed to, it will change the way you consume music, movies, photographs and TV. It might even transform your social life.

Bill Gates would really like a piece of your nerve center. He's bet billions of dollars that the Xbox will get it for him, and hasn't seen one thin dime of profit yet. True, since it launched in November 2001, the Xbox has sold 20 million units, earning it a comfortable, if distant, second place to Sony's PlayStation 2 in the North American market. But the
game-console business is a peculiar one: you have to spend a bundle on promotions, and you lose cash on every box you sell, hoping to make it all back by taking a cut of game sales. That hasn't happened yet for Microsoft. "At some point you have to decide, O.K., when do you stop investing to be credible in the marketplace and start investing to make money?" says Robbie Bach, Microsoft's chief Xbox officer. "A billion dollars of losses each year based on the hardware is tough to sustain."

It certainly is. But insane as it sounds, that is all according to the master plan. The whole point of doing the first Xbox was to have a shot at making money next time around. "The first generation, it's just like a video game," Gates says. "If you play perfectly, at the end it says, 'You get to play again.' That's all it says!" He's cracking himself up. He has a surprisingly infectious laugh. "You put your hand in the till. There's no quarter down there. There's no, like, even tickets to buy funny dolls or anything. It's just, Hey, play again."

If all goes well, the Xbox 360 will be out around Thanksgiving; Sony and Nintendo are expected to follow with consoles of their own in 2006. TIME got exclusive behind-the-scenes access to the minds and the strategy that built the new Xbox, Welcome to the future of fun.

LICENSED TO CHILL

Xbox headquarters is a surprisingly unimpressive place, a generic office park in Redmond, Wash., across the road from a large gravel pit. Microsoft's inspiring name for this low-rent farm is the Millennium campus, and it's where the company's money-losing projects live. Not for them the manicured lawns and sculpted bermis and softball fields and fancy cafeterias of Microsoft's main campus. They get the gravel pit.

But, in a way, the isolation of the Millennium campus has worked in the Xbox team's favor. The Xbox project is run by five guys, all Microsoft vice presidents, and one thing they realized early on is that while Microsoft was the right place to get the next Xbox built financially, it was totally wrong for it culturally. Microsoft moves slowly and doesn't make sharp turns. It also doesn't play especially well with partners--like the people who write games and make consumer electronics--has little experience building hardware and has never shown much aptitude for nurturing fun, cool brands. So they set up a kind of separate minicompany within Microsoft, insulated from the institutional lameness of its parent. "They allowed us to set up a separate division almost that is physically, geographically, psychologically and spiritually different from what Bill himself calls the Borg," says Peter Moore, the V.P. in charge of marketing the new Xbox. Moore knew that whatever has made Microsoft successful thus far wouldn't help it here. And Gates seems to recognize that too. "Microsoft industry expects us to act like Microsoft: very formulaic, very product oriented, very march-down-the-straight-path," Moore says. "Bill is very important to us, but he's not driving this thing. God bless him, I think he wants to be more a part of it than we actually, you know, feel comfortable with."

So who is driving this thing? More than anybody else it's a manic, shaven-headed character named J Allard. (Yes, it's just the one letter.) In 1993, as a 25-year-old wunderkind Microsoft, Allard wrote an 11-page memo that almost single-handedly persuaded Gates that maybe personal computers should be able to connect to something known as the Internet. Now a 36-year-old V.P., Allard is one of the few people who can get the Microsoft juggernaut to change direction; he's known as one of the "Baby Bills," the company's young up-and-comers, and Gates is often what technology people call an evangelist: a charismatic guy who's so hysterically excited about a product, he gets other people excited by the sheer force of his psychic mojo.

One of the first problems Allard had to solve was what the new Xbox would look like. It's not a trivial question. The old Xbox is large and forbidding, a matte black and poisonous green plastic crate the size of a VCR. Perfect for hard-core gamers, maybe, but if Microsoft wanted to grow its audience, Allard knew the new Xbox had to look kinder and gentler. The goal was a design that was welcoming but not worrying, that snagged the soccer moms and NASCAR dads and Britney girls—without losing the Halo boys.

Allard's solution was a good example of un-Microsoft thinking. "Guess how you get great design?" he asks. "You don't try to do it with computer scientists from M.I.T. You don't try to do it the conventional way one would think about from a Microsoft point of view." Instead, Allard hired a sculptor from the Rhode Island School of Design and gave him a long leash. The sculptor turned around and hired a dozen extremely prestigious boutique design firms to each come up with a design for the new Xbox. He then picked two winners, one from San Francisco and one from Osaka, Japan, and made them work together to build something cool yet approachable—"inviting" was the key concept. To make sure everything was absolutely as pretty as it possibly could be, he also hired a company that specializes entirely in color schemes. "Serious color meetings went down," Allard informs me.

The end result? A modest little pedestal just over 1 ft. high and 3 in. wide, with a gently convex front and slightly in-curving sides. It's sleeker and slimmer than the old Xbox. (One of the reasons the first one tanked in Japan is that Japanese consumers, having smaller apartments, are very space conscious.) It's also a little feminine—there's a hint of an hourglass figure. There are very few cables because the controllers are wireless. It has chrome accents, but it's mostly a creamy, calming off-white that the color geniuses call chill. And if you don't like chill, it has a snap-off faceplate, so you can customize it.

If the old Xbox looked like something recovered from a fallen asteroid—an angry, evil asteroid—this looked like something created on planet Earth, albeit a near future, slightly utopian planet Earth. It definitely wasn't from planet Microsoft. "We knew we had finalized it when the research came back from Japan," Moore says. "We asked people, Who do you think designed this? And they said, 'This has to be from either Sony or Apple.' That was the seminal moment."

THE TOLSTOY MACHINE

The Xbox 360 does, of course, have a function beyond looking pretty. Its first order of business—but only its first—is to play video games. It's not high praise to say the Xbox 360 is the greatest piece of gaming hardware ever created, because gaming hardware gets better all the time. But there is a wow factor to the Xbox 360 because it's the first console for which all the games will be in high definition, wide screen, with Dolby 5.1 surround sound. It's like putting on a pair of glasses: everything is clearer and sharper and more vivid.

Take the old Xbox's flagship golf game, Tiger Woods PGA Tour 2005. Put it side by side with the 2006 version, currently a work in progress. The grass in the old version looks like a green carpet; in the new version, each blade of grass is animated individually and sways to its own rhythm. In the old version, trees make crude, round, blobby shadows; in the new version, each individual leaf has its corresponding individually rendered leaf shadow. The play of light on the water hazards is not readily distinguishable from a filmed image. The fidelity is disconcerting: it gives you a vertiginous feeling, as if you were going to fall into the screen and come out in Narnia.

And fidelity is important. One reason games aren't taken seriously as art is that they don't look like art. They look like cartoons, and not fancy Pixar cartoons either. They look like lame Saturday-morning cartoons. That's going to change. Characters in the Xbox 360 game based on The Godfather have a gravitas and dramatic weight to them that we certainly didn't have in the first version, each individual leaf has its corresponding individually rendered leaf shadow. The play of light on the water hazards is not readily distinguishable from a filmed image. The fidelity is disconcerting: it gives you a vertiginous feeling, as if you were going to fall into the screen and come out in Narnia.

But that's just the beginning. Some game developers may point out that it's not that hard to make a pretty-looking game when you have enough megahertz and gigabytes to throw it at. The real trick is expanding what is called game play: the ineffable, alchemical mixture of pace and structure and balance and story that make a game work. Consider a military fighting game like Call of Duty: Finest Hour, in which players take part in the major battles of World War II. In the old version, you're constantly bumping into invisible barriers that force you from place to place down preset trails, accomplishing a predetermined chain of tasks. Don't look too closely at the extras: they're not particularly detailed, or all that smart.

In the Xbox 360 version, Call of Duty 2, the game play is a startling leap forward. You can run around at random like the battle-panicked infantryman you are, surrounded by hundreds of your fully realized, evenly panicking brothers in arms. You can accomplish your goals (or die trying) in whatever order seems expedient: no more invisible barriers. Clouds of dust and smoke float up and block the sun, interfering with the ambient light—war is finally getting its fog. The chaos is astonishingly visceral: you're Joe Grunt, playing your little part in vast events that are beyond your puny ken. This is war the way Tolstoy described it, or Stendhal, or Stephen Crane, seen from the bottom up. Suddenly video
games have added a couple more octaves to their emotional register.

Of course, war gamers aren't what really occupies Gates. He has them already. (Note to the hard-core faithful: the next version of Halo will not, repeat not, be ready in time for the launch of Xbox 360. It will be part of the all-important second wave next spring. "It's perfect," Gates says, radiant with bloodlust. "The day Sony launches [the new PlayStation], and they walk right into Halo 3." Microsoft is expected to announce that Xbox 360 will play Halo 2 and other Xbox games.) But there's still a significant demographic that for some reason doesn't consider wiggling a joystick to pretend they're shooting somebody a major priority in their lives. To woo this wider group, video games will have to get easier, more approachable, and they will have to expand into genres that don't yet exist.

Most video games are action movies. Where are the romantic comedies? And what are the dramatic weepies? "We're not gonna get so everybody in the family loves this thing just with sports and shooters and racers," Gates admits. "We're gonna have to fund, both internally and externally, some high-risk genres and see if those can stick. We can't just stay with the tried and true."

But maybe the new Xbox doesn't need fancy-dancy games or new, risky genres. Maybe it doesn't need games at all.

THE CONQUEST OF THE LIVING ROOM

There's a top-secret 147-page internal document at Microsoft called "The Book of Xenon." Xenon is Microsoft's private code name for the Xbox 360, and "The Book of Xenon" spells out the company's entire strategy for it. Large chunks of "The Book of Xenon" deal with something it calls the D.E.L., which stands for the Digital Entertainment Lifestyle. This is shorthand for the notion that all media--movies, music, games, cameras, phones, TV--are becoming digital media, and that's changing how we relate to them and how they relate to one another. They're merging into a single integrated, portable, customizable media gestalt. This is what used to be known, in the quaint parlance of the now distant 1990s, as convergence.

Which is why, in addition to games, the Xbox 360 plays CDs. You can also use it to rip songs off CDs and play them from the hard drive. You can plug your iPod into the Xbox 360 and play songs off that too. You can watch DVDs on it. If you have a digital camera, you can plug it into the Xbox 360 and pop the images up on your TV, which beats making everybody crowd around the computer monitor in your study. If you have sufficient techno-gumption, you can even connect the Xbox 360 to your PC wirelessly, via wi-fi, and access whatever music and pictures you have stored there.

That's not all. The Xbox 360 has ambitions as a communications device. Unlike either Sony or Nintendo, Microsoft has a fully fledged online service, called Xbox Live, to go with its game console, and with the launch of the new Xbox, Gates & Co. is hoping to turn it into a major online community with Friendster-like features that match up compatible gamers. Companies will use Live to distribute game trailers and sell mini-games and new game levels. It will be a free-for-all bazaar. Players will be able to customize games--say, the way the skateboards might look in Tony Hawk's American Wasteland--and then sell their custom wares to one another online.

Right now you can use Xbox Live to talk to people you're playing with via voice chat--think free long distance over the Internet. Soon you will also be able to send e-mail and instant messages. If you have a camera peripheral, you will be able to send short video messages and even videoconference. And here's an important point: with Xbox 360, you don't even have to be playing a game. You will be able to chat with other people over Xbox Live when you're just plain watching TV. The words appear over the show, or you can chat aloud using a headset. That is, arguably, much more useful than actually playing games. Gates is so stoked about it, he can't believe other companies haven't done it before him. "If there's anything we're confused about, about what Sony's thinking, it's when do they get their act together on the equivalent of Live?"

THE NEW ECOSYSTEM

Let's not miss what's happening here. Microsoft, a company known primarily for making highly profitable business software, has put a box in your living room. It entered your house under the humble pretense of being a game machine, a toy for the kids, but it just ate your CD player and your DVD player, and it's looking hungrily at your telephone. It's all up in your media cabinet. It's talking to your iPod, your digital camera, your TV, your stereo, your PC, your credit card and the Internet. It has created a miniature electronic ecosystem inside your home, with itself at the center.

Games are just the condiment. This is the main course, and it's what Gates is really after. Games just get you in the door. "You can't just sell it as a convergence device," Gates says. "You gotta get in there because certain members of the family [i.e., teenage boys] think it's a must-have type thing. But the way to cement it is as a family experience. And the way that it really makes sense for Microsoft, and we justify this sort of circuitous route that we went down, is because of how it fits in the living room."

Gates is anxious that the extent of his ambitions not be overstated: "Think of it as not taking over the digital ecosystem but being a prime player in that digital ecosystem." Duly noted. But the question remains: Is Microsoft about to do in the living room with the Xbox 360 what it did in the office with Windows? Will it create a technology so well positioned and well marketed and so devilishly useful that it becomes the de facto standard and creates an insanely profitable quasi-monopoly around itself? As music and movies become more and more digital, the entertainment business is transforming into a software business, and somebody has to build the master platform on which all that software runs, and the hardware through which it flows. Turn to page 13 in your "Book of Xenon," please: "As the world's software leader, Microsoft is among the best suited to enable and capitalize this transformation. This is our opportunity to lose."

GAME ON

They could very well lose it. Rumors surrounding the PlayStation 3's processor make it sound like the Ark of the Covenant wrought in silicon, and it may be much further along than Gates gives it credit for. "We look at delivering a quantum leap in technology, not just Xbox version 1.5," a Sony spokeswoman said recently. ("Kutaragi's good at rhetoric," Gates says of Sony PlayStation czar Ken Kutaragi.) For all the Xbox's underdog pluck, the PlayStation 2 still has an overwhelming hold on the $25 billion global video-game market: 68% at last count, to Microsoft's 17%; Nintendo has 15%, according to DFC Intelligence, a market-research firm. (See box, following page.) Microsoft doesn't come to

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tempting to use that kind of power to squeeze out the competition. If Xbox 360 were to take over your media cabinet, would it play DVDs with Sony Pictures movies on them? Of course. But would it play songs from a Sony-owned online music store? Would it accept messages from AOL Instant Messenger? Would it network with a computer running Mac OSX and not Windows? If a platform is too open, you can't make money off it. Too closed, and nobody else uses it, and it withers away and dies.

The final step in the process has nothing to do with what's inside the Xbox: Microsoft will have to make it cool. In addition to giving it that iPod-esque design, Peter Moore will run a very hip, very un-Microsoft ad campaign featuring quirky hipsters wearing the Xbox logo. Moore just threw the Xbox 360 the equivalent of a movie premiere: a party, broadcast on MTV, with Elijah Wood as host and featuring beyond-trendy rockers the Killers. For the Xbox 360’s theme song, Moore licensed an obscure Sex Pistols B-side titled C'mon Everyday, with Sid Vicious on vocals. "Bill and Steve, Gates and Ballmer--when we make marketing presentations, they'll sit and watch and say, 'I have no idea what's going on,'" Moore says. "But at the same time, that's what I need to hear. Because if they do understand it, that's when you know you're in trouble."

If it seems incredible to you that, a year from now, there could an Xbox 360 in your living room—or a PlayStation3 or a Nintendo whatever-they're-calling-it—and that you could be using it to videoconference with your brand-new gamer buddies while grooving on a Mahler symphony, think of all those iPod owners who, five years ago, didn't know what an MP3 was. Jaded as we are, the future can still surprise us. It might just be both nerdier—and cooler—than anybody expected.

**WHAT IT WILL DO**

The Xbox 360 does more than play fancy games (though it certainly does that). It's a multitaled, multitasking, multimedia machine

**GAMES** All games on the Xbox 360 will be in high definition and support 5.1-channel sound. They will also be much more detailed and realistic—both graphically and in the game play—than anything you've seen before

**PICTURES** You will be able to display photos straight from your digital camera or cell phone, or the hard drive of your PC (if it's running Windows XP), to which you can connect wirelessly

**MUSIC** The Xbox 360 will work as a regular CD player, but you can also use it to rip tracks from CDs and save them to its hard drive. It will even play tunes off your iPod

**MOVIES** It's not just a games machine, it's also a DVD player!

**INTERNET** Of course, you can play against other people over Xbox Live, Microsoft's gaming service, but you will also be able to talk to them over a headset, share music and photos, send text and video messages, and even video-conference

PHOTO (COLOR): GAME BOYS: Bill Gates and J Allard, who heads the Xbox technology team, take the 360 for a spin

PHOTO (COLOR): BEAUTY AND THE BOX: Microsoft tried many, many designs before the Xbox 360 took its final form

PHOTO (COLOR): THE WINNER: The final design is warm and friendly—all the better to draw in a more mainstream audience

PHOTO (COLOR): SWIMMING LESSONS: Before it can be certified as safe and ready for home use, the Xbox is baked, frozen, tilted, shocked and more. The screens show a test animation of a dolphin; when engineers want to know if the Xbox is still running, they ask, Is the dolphin swimming?

PHOTO (COLOR): SWING SHIFT: In Tiger Woods PGA Tour 06, the detail is so fine you can count the blades of grass

PHOTO (COLOR): SANDBOX: Call of Duty 2 will re-create the heroism and chaos of WW II on a scale never before possible

PHOTO (COLOR): EXTERMINATOR: Quake 4 will feature photorealistic detail, huge outdoor arenas and vehicular combat

PHOTO (COLOR): FATHER FIGURE: Lifelike faces will give games more dramatic power, as in this scene from The Godfather

PHOTO (COLOR): IN LIVING COLOR: Kameo, a Zelda-style adventure game, is designed to appeal to both men and women

PHOTO (COLOR)

PHOTO (COLOR)

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By Lev Grossman

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Click on the link below. Examine the website and answer the questions for “Source 3.”

http://www.psychologyofgames.com/