LET'S PLAY!



Video games stand accused of causing obesity, violence, and lousy grades. But new research paints a surprisingly complicated and positive picture, reports Jeremy Adam Smith.

CHERYL OLSON HAD SEEN HER TEENAGE son play video games. But like many parents, she didn't know much about them.

Then in 2004 the U.S. Department of Justice asked Olson and her husband, Lawrence Kutner, to run a federally funded study of how video games affect adolescents.

Olson and Kutner are the co-founders and directors of the Harvard Medical School's Center for Mental Health and Media. Olson, a public health researcher, had studied the effects of media on behavior but had never examined video games, either in her research or in her personal life.

And so the first thing she did was watch over the shoulder of her son, Michael, as he played his video games. Then, two years into her research—which combined surveys and focus groups of junior high school students—Michael urged her to pick up a joystick. "I definitely felt they should be familiar with the games if they were doing the research," says Michael, who was 16 at the time and is now 18.

Olson started with the PC game Max Payne, which, she says, had an "engaging film noir-style plot" and "lots of shooting." Later she moved on to Star Trek: Bridge Commander, which turned out to be more realistic than she expected. "I found it really stressful, in my role as the captain, to have the crew members stand there watching me expectantly as I tried to figure out the controls and give them orders before the ship exploded," she says. With his father, Michael played James Bond games. "He

would thoroughly trounce me," recalls Kutner, a psychologist.

Olson and Kutner—who are publishing a book based on their research, Grand Theft Childhood? this spring—were entering a brave new world of play that is closed to many parents. For millions of kids and quite a few adults, video games are central to their play and imaginations. Today the American video game industry makes almost twice as much as movie theaters, and consumers spent \$18.85 billion on video-game hardware, software, and accessories in 2007—triple what they spent in 2000. Several authoritative studies, including Olson and Kutner's, have found that 70 to 80 percent of boys and approximately 20 percent of girls now play video games on an average day.

Their popularity—and the bloody, pyrotechnic action of some games—have fueled a wide range of fears. Politicians, pundits, preachers, and many parents accuse video games of displacing more wholesome, traditional forms of play and contributing to ills such as childhood obesity, poor school grades, and, most of all, kid-on-kid violence. Their fears echo earlier concerns about movies, comic books, rock and roll, and hiphop, which all provoked opposition when they first appeared.

Harvard Medical School researchers Cheryl Olson and Lawrence Kutner play a video game with their son, Michael. "It's a great thing developmentally for the child to teach the parent something," says Olson.

As a result, advocacy organizations like Mothers Against Videogame Addiction and Violence and the Parents Television Council have pressed for laws limiting video game violence. Since 2001, federal judges have rejected nine attempts to regulate video games, citing First Amendment protection. Censors abroad have had more luck: Last year, both the British Board of Film Classification and the Irish Film Censor's Office banned the game *Manhunt 2* for its "unrelenting focus on stalking and brutal slaying."

It is hard to argue that a game like Manhunt 2 is good for kids. And yet according to the market-research organization NPD Group, only 16 percent of all games sold in 2007 shared Manhunt 2's rating of "M" ("Mature") for violent or sexual content, while 57 percent of games sold were rated nonviolent and safe for children. Video games today are defined by their diversity, ranging from the innocent quests of Donkey Kong to the complex strategy of Civilization to the amoral brutality of Grand Theft Auto. Even video games with violence in them-like movies and books with violent content-are not all the same. What's more, new research shows that individuals experience the violence differently.

Indeed, the more one examines the range of games on the market today, as well as the considerable amount of research devoted to studying them, the more one realizes how difficult it is to generalize about the games and their effect on kids. "It's a lot more complicated than people think," says Olson. "We've been worried about the wrong things and maybe overlooking some more subtle things that we might want to give more attention to." Kutner adds, "This is so pervasive in our society that it's something we need to pay attention to, even if we don't have kids, because it influences how people think, just as mass media of all types over the past couple hundred years have influenced how people think."

Playing together

Olson, Kutner, and colleagues ultimately analyzed 1,254 junior high school students, making their \$1.5 million study the largest and most authoritative of its kind. They gave written surveys to the entire student body at schools across the country and

organized in-depth focus groups with kids in the Boston area who had played M-rated games. In the focus groups, they also talked to about half of the kids' parents—which, Kutner says, revealed that many moms and dads had little idea of what went on in the games their kids played.

In addition to game-playing habits, the researchers looked at the emotional, psychological, and socioeconomic situations of the kids, trying to understand which kids were most at risk to engage in violent behavior. Their results, which they started to publish last year, challenge many popular assumptions, while also validating some existing concerns and raising a few new ones.

Their study immediately debunked two myths: that gamers are antisocial, and that the kids who play them are out of shape. For boys especially, they found that today video games are a way to socialize and connect with their friends, and that this bonding sometimes facilitates, rather than discourages, participation in physical play.

"Since game play is often a social activity for boys,

nonparticipation could be a marker of social difficulties," Olson and Kutner, along with their Harvard colleague Eugene V. Beresin, write in last October's issue of the *Psychiatric Times*. "These boys [who rarely played games with friends] were also more likely than others to report problems such as getting into fights." Olson suggests that today's video games can serve as a source of social prestige for otherwise dorky teenage boys, in the same way that sports bolster the popularity of athletic boys. It's an inversion of the older concern that video game play might cause social isolation.

And instead of siphoning time away from sports and outdoor activities, Olson and Kutner discovered that boys who played sports video games were actually much more likely to play those games in real life. "These are kids who are already into football or skateboarding," says Kutner. In focus groups, the researchers heard that "they will use it as a way of improving their skills, for mastering a new move. They'll perfect it virtually, and then go out on the court or the street and try it with a real basketball or a real skateboard."

This finding is echoed in another new study led by University of Texas, Austin, psychologist Elizabeth A. Vandewater. Based on surveys of 1,491 kids, Vandewater and her colleagues also found that playing video games didn't take time away from sports or other active leisure activities. And like Olson and Kutner's study, their research discovered that game-playing and nongaming adolescents spent the same amounts of time with family and friends. Moreover, gamers often played with friends and saw it as a way of bonding.

But if video games are not displacing real-world play and socializing, then where is the time to play them coming from? When the University of Texas researchers compared game-playing and non-gaming adolescents, they found that playing games cut into reading and homework. In results

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published last year in the journal Archives of Pediatric and Adolescent Medicine, they report that "adolescent gamers spent 30 percent less time reading and 34 percent less time doing homework." (Depressingly, even nongaming boys spent only eight minutes a day with a book.)

Iowa State University psychologist Craig Anderson, a leading expert on research into video-game violence, says that while video-game play does appear to hurt school performance, this has little to do with the content of the games. "The best bet at this point is that it has to do with the amount of time taken away from other activities that would typically improve school performance," he says. "It's no different from TV: Kids who watch a lot of TV typically are not spending it on educational programs."

The bottom line, according to both studies, is that video games become a social, health, and educational problem when played to the exclusion of other activities—which, Olson points out, can be true of any pastime, from sports to hanging out with friends.

"I played games along with other things," says Olson's son Michael of his childhood. "It never really supplanted anything. I was outside. I was meeting with friends, building forts in the backyard. But everyone else was

When the first edition of the video game *Doom* was released in 1993, its scary and graphic violence was considered revolutionary. In 1999, *Doom* was blamed for contributing to the Columbine school massacre.





playing the games and that was part of how we played together."

Single-person shooter

But unlike movies and TV, which are fundamentally passive viewing experiences, violent video games call for players to actively shoot, stab, or bludgeon enemies to death. Does research show that these violent games promote belligerence and bloodshed in the real world?

"A movie's the same, even if you watch it multiple times," Kutner points out. "You may get additional insights, but it's the same thing. With video games, you are interacting with the movie and it changes based on that, and so it's a different way of thinking. In a way, we diminish these programs by calling them games. In other contexts, the same thing would be called a simulation."

In his 1999 book *Stop Teaching Our Kids to Kill*, Lt. Col. Dave Grossman, a psychologist and historian, argues that "single-person shooter" video games replicate military training, lowering children's innate resistance to killing other human beings, without also instilling in them the military discipline that might keep impulsive behavior in check.

Cho Seung-Hui, who murdered 32 people on the Virginia Tech campus in 2007, was initially reported to have played video games obsessively (a claim since debunked by the Virginia Tech panel that investigated the incident), and many commentators have instinctively linked game violence with campus killings. Cho "adopted the type of behavior of protagonists in films and computer games," wrote University of Virginia psychologist Dewey Cornell shortly after the massacre. "The special effects and gratuitous violence seen in the mass media ultimately desensitize humanity, and Cho's case illustrates how dangerous the repercussions can be."

The obvious problem with this charge is that millions of kids and adults play video games every day without ever engaging in any violent behavior. In fact, as video games have surged in popularity during the past decade, youth violence has declined.

According to a study released in January of 2008 by the Centers for Disease Control and Prevention, the number of school killings fell considerably from 1992 to 2006—a period of time that includes the notorious 1999 Columbine massacre. Many leaders, including President Bill Clinton, blamed the Columbine tragedy on the killers' fascination with games like *Doom* and *Wolfenstein 3D*.

A 2002 study did *not* find a relationship between game play and school shootings.

But when the U.S. Secret Service and Department of Education analyzed 37 incidents of school violence and sought to develop a profile of school shooters, they discovered that the most common traits among shooters were that they were male and had histories of depression and attempted suicide. While many of the killers—like the vast majority of young males-did play video games, this 2002 study did not find a relationship between game play and school shootings. In fact, only one eighth of the shooters showed any special interest in violent video games, far less than the number of shooters who seemed attracted to books and movies with violent content.

In short, trying to curb violent video games (or targeting kids who play video games) would seem to have little or no effect on levels of school violence.

However, the story does not end there: Video games may not directly cause school

shootings, but dozens of empirical studies have shown a strong link between video game play and aggressive feelings. When Craig Anderson and colleagues analyzed 54 independent studies involving 4,262 participants in 2001, they found that playing violent video games increased aggressive emotions and behaviors, and measurably decreased helpful behaviors. Researchers at the University of Missouri monitored brain activity in video-game players and found that the games trigger a part of the brain that drives people to act aggressively. And in 2004, a team of researchers studied 607 eighth- and ninth-grade students in the Midwest and discovered that there was indeed a correlation between playing violent video games and getting into fist fights, though the study was not able to say if one caused the other.

That last study reflects the chickenand-egg conundrum of a lot of video-game research: Are troubled kids more likely to play violent video games, or do violent video games help create troubled kids? "That's a question we can't answer right now," says Cheryl Olson. For decades, researchers have been trying to untangle the constellation of factors involved in youth violence, from quality of neighborhoods to home environment to media influence, but so far they haven't been able to determine the degree to which any one of them contributes.

Part of the reason why data seem to contradict each other, Olson suggests, might lie in the disparate motivations players bring to the games. "Ours was the first study to ask a decent-sized group of kids, 'Why do you play [M-rated] video games?'" she says. "We came up with 17 or 18 reasons why they might play. And we were struck that many of the kids said they were playing to help with emotional regulation—to get their anger out, to feel less lonely, to reduce stress, a lot of things we didn't expect." For these kids, Olson suggests, violent video games

might play a positive role in managing unruly emotions. "If I had a bad day at school," said one focus-group participant, "I'll play a violent video game, and it just relieves my stress."

Craig Anderson isn't convinced by this "emotional regulation" hypothesis. "Kids report that's what is going on," he says, "but in fact there's no evidence that actually happens."

In fact, Olson and Anderson could both find support from a new study by psychologists in New Zealand and Australia. The study measured the individual personality traits of 126 teenagers, then tested their reactions to the violent video game Quake II. They found that playing the game made hostile people angrier, helped calm more introverted personalities, and had no apparent affect on people with mild and stable personalities. In other words, one kid might indeed play the game to blow off steam in a healthy way, even as it feeds another's anger.

Method acting

Olson and Kutner's work also suggests a positive and paradoxical dimension of playing video games with violence in them: helping kids to grapple with life's scariest experiences.

Olson reports that many kids in their focus groups said they liked playing violent video games because they knew the fighting wasn't happening in real life. In fact, many of the kids reported being much more scared by TV news. "They told us, 'The news is real, and that makes me scared." In contrast, they could control the violence in video games. "There are things you can try out in a game that you can't do in real life," says Olson. "Some of the boys in our focus groups really liked the fact that you could choose to be a good guy or a bad guy. They can ask, 'What kind of person would I end up being?"

Olson's son Michael says he and his friends do not play games just because of violent content. Instead, they are looking for a compelling storyline, intriguing characters, and interesting choices. "A good game to me makes you feel like a method actor," he says. "It just draws you into the story and draws you into a character."

These insights resonate with research into children's pretend play. In studies of kids with imaginary friends, University of Oregon psychologist Marjorie Taylor has found that kids often create pretend characters who do sinister, nasty, and even violent things. (See Taylor's essay on page 28 of this issue.) "Like adults who think things through before they act, this gives children an opportunity to play it through before they encounter the situation in real life," says Taylor. "If something is bothering you, you can control it or manipulate it in the world of pretending. That's a way of developing emotional mastery."

U.S. Circuit Court Judge Richard A. Posner offered a similar conclusion in his 2001 opinion blocking an Indianapolis ordinance that would have regulated video-game arcades. "Violence has always been and remains a central interest of humankind and a recurrent, even obsessive theme of culture both high and low," he wrote. "It engages the interest of children from an early age, as anyone familiar with the classic fairy tales collected by Grimm, Andersen, and Perrault are aware. To shield children right up to the age of 18 from exposure to violent descriptions and images would not only be quixotic, but deforming; it would leave them unequipped to cope with the world as we know it."

That doesn't mean that anything goes. Olson says many precautionary steps can be taken to mitigate the harm that violent video games might cause. "I would definitely want to show realistic consequences," she says, when asked how she would design one of these games. "There are a number of games with storylines that show the consequences of violence: Kids are getting orphaned or people are suffering." She says the violence should never be depicted as funny, or the perpetrators as attractive, and the players should be rewarded for mercy and moral choices—as they are in the game *SWAT*, for example.

But to help kids make the right choices about video games, parents and other adults first need to understand what kids are playing. Olson and Kutner urge parents and researchers alike to learn more about these games, and even play them with kids. This will help both groups develop a more nuanced understanding of gaming and be able to tell the good games from the bad ones.

"It's a great thing developmentally for the child to teach the parent something," says Olson. "A lot of kids said they'd love for their parents to play games with them."

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Knowledge is Power

BY JEREMY ADAM SMITH

Video games pose a vexing problem for many parents. It's tempting to try simply to banish them from the home, especially violent games. And yet video games are now a part of youth culture. Kids can still play them at a friend's house or on a home computer, which today is necessary for homework.

Knowledge is a better solution than prohibition, suggest Harvard Medical School researchers Cheryl K. Olson, Lawrence Kutner, and Eugene V. Beresin. Based on an analysis of the most recent video-game research, plus their own study of more than 1,200 junior high school kids, they recommend the following guidelines to parents:

Know your child's personality. If your child isn't doing well in school or seems prone to distraction, say the researchers, it might be best if he or she doesn't have a TV, game console, or computer in his or her bedroom. Parents should also carefully manage the media intake of kids who are prone to depression or aggression. Violent games can feed these tendencies.

Know the games. Parents should familiarize themselves with the games' rating system, compare notes with other parents, watch kids play, and pick up a joystick now and then. This will inform judgments about what's best for your kids.

Know the technology. Joystick and PC games are couch-potato games, but recent hardware innovations like the Nintendo Wii require players to dance, jump, and punch in the air, keeping them physically active. In addition, many new kinds of consoles and PCs allow parents to block age-inappropriate games.

Make sure your kids know the rules. House rules on game content and play time must be spelled out-for example, that kids must finish their chores and homework first. Parents should also set limits on what games they will buy or rent before entering a store with their kids.

Encourage critical thinking. Last but not least, parents should foster empathy in kids and talk to them about nonviolent solutions to problems. The researchers also suggest that parents encourage kids to ask questions about what they see or hear in the media.