"We've been seeing a whole rash of shootings throughout this country and in Europe that relate back to kids who obsessively play violent video games. The kids involved as shooters in Columbine were obsessively playing violent video games. We know after the Beltway sniper incident where the 17-year-old was a fairly good shot, but Mr. Muhammad, the police tell us, got him to practice on an ultra-violent video game in sniper mode to break down his hesitancy to kill."

—Washington State Representative Mary Lou Dickerson

on *The NewsHour with Jim Lehrer* (PBS), July 7, 2003[i]

Chapter 1: The Big Fear

Thirteen-year-old Darren and a half-dozen of his video game-playing friends are sitting around a table at the Boys and Girls Club in a working-class section of Boston. We're talking about the games, especially the violent ones. They've all played them.

Darren had a tough time in school earlier that week. On Monday, a teacher had said something that embarrassed him in front of his classmates. When he went home that afternoon, he plugged in his video game console, loaded *Grand Theft Auto 3*, blew up a few cars and shot a half-dozen people, including a young blonde woman. When asked, Darren admits that the woman he killed in the game looked a lot like his teacher.

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If you listen to the politicians and the pundits, the relationship is blindingly clear: playing violent video games leads children to engage in real-world violence or, at the very least, to become more aggressive.

- In August 2005, the American Psychological Association issued a resolution on violence in video games and interactive media, stating that "perpetrators go unpunished in 73 percent of all violent scenes, and therefore teach that violence is an effective means of resolving conflict."[ii]
- The attorney for Lee Malvo, the young "DC Sniper," claimed that the teen had taught himself to kill by playing *Halo* on his X-Box game console. "He's trained and desensitized with video games…to shoot human forms over and over."[iii]
- Columbine High School shooters Dylan Harris and Eric Klebold were avid computer gamers. According to psychologists Craig Anderson and Karen Dill, "One possible contributing factor is violent video games. Harris and Klebold enjoyed playing the bloody shoot-em-up video game *Doom*, a game licensed by the US Army to train soldiers to effectively kill."[iv]

We hear that youth violence, as reflected in violent crime and school shootings, is a growing problem, and that young game players are socially isolated and unable to form interpersonal relationships.

- The growth in violent video game sales is linked to the growth in youth violence—especially school violence—throughout the country.

- School shooters fit a profile that includes a fascination with violent media, especially violent video games.
- A British study by *Save the Children* was described in the press as finding that "children are struggling to make friends at school because they spend too long playing computer games"[v] and "technology is creating a generation of lonely children…. Youngsters spend so much time on solitary pursuits such as computer games, surfing the Internet and listening to MP3 players that they fail to develop social skills."[vi]

The game ratings and content descriptors provided by the Entertainment Software Ratings Board (ESRB) are all that's needed to help parents protect their children from violent and other inappropriate content.

- The ESRB employs child development specialists who play each game thoroughly before assigning it a rating that helps parents select which games are most appropriate for their children.
- Video games that are rated "T" ("suitable for ages 13 and older") are less likely to desensitize a child to real-world violence than video games that are rated "M" ("suitable for ages 17 and older").
- Checking the ratings on the games our children bring home—and not allowing M-rated games—is the best way to protect our children from video game violence.

All of these statements are wrong! Some are misunderstandings; others are outright lies. In fact, much of the information in the popular press about the effects of violent video games is wrong.

Torturing the Data?

Guy Cumberbatch, Ph.D., is a psychologist specializing in media research. He directs the Communications Research Group in Great Britain, and has been studying the effects of mass media on violent behavior for several decades. He sums up that research succinctly:

The real puzzle is that anyone looking at the research evidence in this field could draw any conclusions about the pattern, let alone argue with such confidence and even passion that it demonstrates the harm of violence on television, in film and in video games. While tests of statistical significance are a vital tool of the social sciences, they seem to have been more often used in this field as instruments of torture on the data until it confesses something which could justify publication in a scientific journal.

If one conclusion is possible, it is that the jury is not still out. It's never been in. *Media violence has been subjected to lynch mob mentality with almost any evidence used to prove guilt.*[vii]

The strong link between video game violence and real world violence, and concluding that video games lead to social isolation and poor interpersonal skills are drawn from bad or irrelevant research, muddleheaded thinking and unfounded, simplistic news reports:

- The allegation that "perpetrators go unpunished in 73 percent of all violent scenes" is based on research from the mid-1990s that looked at selected television programs, not video games.[viii]
- The video game *Halo* involves shooting an unrealistic gun at a giant alien bug. It is not an effective way to train as a real sniper. In court, Lee Malvo admitted that he trained by shooting a real gun at paper plates that represented human heads. Also, Malvo had a long history of antisocial and criminal behavior, including torturing small animals—one of the best predictors of future violent criminal behavior.[ix]
- It's unlikely that Harris and Klebold's interest in violent videogames or other violent media played any significant role in their actions. An FBI investigation concluded that Klebold was significantly depressed and suicidal, and Harris was a sociopath.[x]

Youth violence has decreased significantly over the past decade.[xi] *You are more likely to be struck and killed by lightning than to die in a school shooting.*[xii]

- Video game popularity and real-world youth violence have been moving in *opposite* directions. Violent juvenile crime in the United States reached a peak in 1993, and has been declining ever since. School violence has also gone down. Between 1994 and 2001, arrests for murder, forcible rape, robbery, and aggravated assaults fell 44 percent, resulting in the lowest juvenile arrest rate for violent crimes

since 1983. Murder arrests, which reached a high of 3,800 in 1993, plummeted to 1400 in 2001.[xiii]

- The US Secret Service intensely studied each of the 37 non-gang and non-drug-related school shootings and stabbings that were considered "targeted attacks"[*] that took place nationally from 1974 through 2000. (Note how few premeditated school shootings there actually were during that 27-year time period, compared with the public perception of those shootings as relatively common events!) The incidents studied included the most notorious school shootings (e.g., Columbine, Santee, Paducah) in which the young perpetrators had been linked in the press to violent video games. The Secret Service found that there was no accurate profile. Only 1 in 8 school shooters showed any interest in violent video games; only 1 in 4 liked violent movies.[xiv]
- On the other hand, reports of bullying are up.[xv] While bullying may not make the headlines, it makes a big difference in the everyday lives of our children.[xvi] As you'll see in Chapter 4, our research found that certain patterns of video game play were much more likely to be associated with these types of behavioral problems than with major violent crime such as school shootings.

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[*] The Secret Service defined a targeted attack as "any incident where (i) a current student or recent former student attacked someone at his or her school with lethal means (e.g., a gun or knife); and (ii) where the student attacker purposefully chose his or her school as the location of the attack. Consistent with this definition, incidents where the school was chosen simply as a site of opportunity, such as incidents that were solely related to gang or drug trade activity or to a violent interaction between individuals that just happened to occur at the school, were not included." (p. 7.)

For many children and adolescents, playing video games is an intensely social activity, not an isolating one.

- Many games involve multi-person play, with the players either in the same room or connected electronically. They often require that players communicate so that they can coordinate their efforts. Our research found that playing violent video games was associated with playing with friends.
- For younger children especially, games are a topic of conversation that allows them to build relationships with peers.
- Although it came from a reputable organization, the widely cited British study claiming that increased use of electronic media has led to social isolation among children based its findings on the personal opinions of an unspecified group of primary school teachers who were asked to compare today's children (ages 5 to 11) to what they remembered about children who were in their classrooms when they started teaching, not on scientific observations of children conducted over time. Blaming supposed deterioration of social skills among kindergartners and first graders on mp3 players and time spent surfing the Internet is a bit of a stretch, to say the least. Also, the "study" was part of a publicity campaign for Friendship Friday, an annual fundraising event in Great Britain for Save the Children.[xvii]

The current ESRB rating system, while more effective and informative than other media rating systems, has significant flaws that need to be addressed.

- Until 2007, the Entertainment Software Rating Board employed temporary workers with no background in child development to rate its games. In fact, they don't play the games at all. They watch videos of excerpts of the games that have been provided by the manufacturers.[i] Their on-line help wanted ad for game raters stated:

The ESRB is looking for adults with flexible hours that would be available to come to our office in midtown Manhattan on a freelance basis (1-4 times a month) during normal (9-5) business hours to rate video games. Experience with children is preferred. Prior experience playing games is not required and training will be provided.[xviii]

That approach has recently been revised. The ESRB now uses full-time employees to rate games, although child development experience, game-playing experience or even being a parent is still not required. The new (2007) on-line help-wanted ad for game raters reads:

Prospective candidates should have:

** Experience with children*

** Interest in and familiarity with video games*

** Strong communications skills (verbal, written)*

Parents and those with video game playing abilities are preferred, though these are not requirements. Salary is commensurate with qualifications and experience. Training will be provided.

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[i] The often-heard demand from politicians and others outside the industry that game raters play all possible parts of a game before assigning a rating is naïve and impractical. Making judgments based upon appropriate video excerpts makes much more sense, especially since publishers face significant costs, including fines, if the ESRB revises a rating upwards after a game is released.

- According to research on the effects of violent media, the ESRB may have parts of its ratings system backwards! One of the predictors of which violent media are likely to result in violent real-world behavior is material that does not show the realistic negative consequences of violence, such as pain, suffering, and blood.[xix] Violent video games that are rated "M" are more likely to show those negative consequences. Those that are rated "T" or "E" achieve such lower ratings in part by not showing those negative consequences: dead bodies just disappear; blood is animated rather than realistic.[xx] Also, those games in which the player is rewarded with extra points for avoiding a violent confrontation (e.g., the *SWAT* series) are given the same "M" rating as those games in which the player is given extra points for piling up virtual corpses.
- Our interviews with adolescents and their parents found that while parents thought they knew which games their children were playing, for the most part they did not. Also, a growing number of games—some of them extremely violent, sexist and racist games—are available for play online, and are not rated by the ESRB. Neither of these is the ESRB's fault, of course; but they point out some of the limits of any game rating system.

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As Darren tells his story about feeling angry, then playing the violent video game in which he blew up cars and shot several people, including one who looked a lot like his teacher, the other kids sitting around the table nod their heads. It's clear that at one time or another, they have each done something

similar. "I guess I got my anger out," Darren says. "Then I sat down and did my homework."

The Game Made Him a Zombie

The United States is by no means alone in its common assumption that video game violence leads to real world violence. On January 11, 2006 an allegedly drunk 20-year-old man entered a synagogue in Moscow, brandished a knife, and injured eight people, six of whom required hospitalization. The Russian newspaper *Pravda* reported the story:

Alexander Koptsev was a quiet and unsociable young man. He had no criminal record and was leading a decent lifestyle. Alexander suffered a severe psychological trauma a year ago, when his sister died, the Kommersant *newspaper wrote. Being unable to handle his grief, the man became a secluded individual, started spending most of his time indoors and developed an addiction to computer games.*

Alexander Koptsev was playing a game called Postal-2 *before he left home and went to the synagogue in Moscow center. The game models a situation, in which the character is supposed to kill as many people as possible in the streets of the city….*

The game which the young man was playing made him a zombie. The man was programmed to demolish and kill. It was believed not so long ago that the descriptions of such mental disorders could be found in fictitious novels and stories. However, those addicted to computer games often suffer from the so-called video game epilepsy syndrome. Ardent gamers suffer from headaches, facial muscular spasms and eyesight

disorder. The syndrome does not lead to aggravation of mental abilities of a human being. However, it develops certain peculiarities typical of epilepsy: a person may become highly suspicious, aggressive and hostile about everything and everyone. A person who suffers from the video game epilepsy syndrome can easily grab a kitchen knife, leave the virtual world and look for victims in reality.

The incident in the Moscow synagogue is an alarming signal indeed. However, this signal warns about the growing influence of virtual reality on the human mind.[xxi]

This is utter nonsense, of course. In his confession to the Moscow police, Koptsev said absolutely nothing about video games; he stated that he was envious of the Jews' standard of living, and spoke of his "desire to die."[xxii] Clearly, this was a very troubled young man.

While there have been some reports in medical journals of an increase in the number of seizures among children over the past century, especially among children watching television or playing video games who are already diagnosed with epilepsy,[xxiii] these are extremely rare events when compared with the number of children and the amount of time spent playing video games. In some of those children, flickering lights (such as those on a television or computer monitor) can trigger seizures. These seizures are not associated with the types of dramatic paranoid or violent behaviors described in the *Pravda* article.

Our Journey as Parents

The prolific scientist and author Isaac Asimov famously stated, "The most exciting phrase to hear in science, the one that heralds new discoveries, is not 'Eureka!' (I found it!), but 'That's funny....'" So it shouldn't be surprising that our first step into what would become several years of full-time research was our casual observations as the parents of a teenage boy who liked to play videogames.

One of us (Cheryl) is a public health researcher specializing in media influences on health-related behaviors. The other (Larry) is a clinical psychologist and journalist specializing in child development and parent-child communication. We're old enough to have been teenagers at a time when the few video games available had titles like *Pong* and *Space Invaders*. But we're young enough to feel very comfortable working and playing with computers and other technology.

Neither of us were "gamers" a few years ago; one of us is today. (The other can take it or leave it—a sure sign of a generation gap.) Our teenage son, Michael, had first played simple computer games in childcare when he was about three years old. Those games had crude graphics and agonizingly repetitive (to an adult) music. They involved completing simple tasks, such as lining up an animated fire truck with a mark on the screen so that the cartoon firefighters could rescue a cat in distress.

He played the games a few times, and loved them. Like other children that age, he was completely fearless when it came to interacting with computers.

While his teachers hesitated over the new and complicated devices, he and his classmates saw computers as friendly toys, and plunged ahead.

This is a pattern seen in the introduction of all new technologies. Our own parents were initially uncomfortable around microwave ovens, color televisions and electric typewriters. Our grandparents were unsure about commercial aviation. Although they would surely deny it now, our children will one day balk at some of the future technologies that their own children will quickly embrace.

Since we had personal computers in our offices at home, we decided to look into video games when Michael was about five years old. A few stood out as being developmentally appropriate and nonviolent, including a series that featured an animated purple car named Putt-Putt. One particular game, *Putt-Putt Saves the Zoo*, was especially charming and captivating for preschoolers (and parents, too).

The plotline involved having the child, acting as Putt-Putt, solve a series of simple one-step and two-step problems in the rich environment of an animated zoo. With each successful solution, one of the six lost baby animals at the zoo would be reunited with its parents. The child could also take time out to play ice hockey with polar bears, dance with penguins, and interact with magical flowers. As we said, it was utterly charming, nonviolent, and both emotionally and cognitively spot-on for a preschooler.

The graphics in these games were much more complex and sophisticated than those of earlier generations of computer games. In fact, when our son played them, the video was a bit choppy and the audio was occasionally out of sync. The computer he used simply couldn't do all the mathematical calculations

quickly enough to run the game smoothly. Interestingly, this was the same computer that Cheryl had recently used to do all of the statistical calculations for her doctoral dissertation in public health at Harvard. Her computer was good enough for graduate school, but not powerful enough for our five-year-old's games of *Putt-Putt*. This was a harbinger of things to come in the world of video games.

When Michael was in kindergarten, he asked the teacher whether they could play video games as part of their class work. She said no. We heard about this when we received a phone call from the school principal. Our son, at age 5, had apparently decided to go over his teacher's head with the request, and had set up a one-on-one meeting with the principal to discuss making video games a part of the curriculum. Clearly, he was captivated by the technology. She was not.

The games he played over the next few years were similar in tone to the *Putt-Putt* games, although they became much more sophisticated. The technology changed as well. By the time he was in fourth grade, he insisted that we buy him a GameBoy. We had recently moved to Switzerland, which meant that he was attending a new school. *Pokémon* was an international craze among kids, and our son wanted to take part. We bought the GameBoy and the Pokémon cartridges.

As we watched and listened to him, it became apparent that the primary attraction for him wasn't the *Pokémon* games themselves, but the social interactions they triggered with peers. It gave the boys—as with many video games at that time, it was mostly boys who played—a non-threatening common

experience to talk about. This let them build relationships and explore new social roles.

Our son and his friends reveled in their mastery of the games' arcane rules, and in their knowledge of the characters' names and special skills. These were things that the adults around them did not comprehend or appreciate, which gave the children a highly valued sense of power and importance. Michael would electronically trade Pokémon characters with his friends the way his father had traded baseball cards a generation earlier.

The game characters were mostly cute, mythical animals with a variety of strengths, weaknesses and special powers. The focus of the *Pokémon* plots, however, was an ongoing series of battles between the mythical animals in which the loser is knocked out or faints. While the characters were cute and the actions were highly stylized, the games focused on violence.

This is not necessarily bad. A game of chess, after all, is a simplified portrayal of warfare in which pawns (commoners) are readily sacrificed to protect more valuable pieces. Yet few people express concerns about children playing chess, and many people actively encourage it as a form of intellectual exercise.

But looking at the plotlines of *Pokémon* piqued our interest in why these games were so attractive. Was it the children's identification with the characters? Was it the opportunity to "collect" characters? (Children this age—especially boys—tend to be avid collectors of all types of things.) Was it the social interactions?

Over the next few years, violence became a more prominent feature of best-selling video games, including some of the ones our son played. The media

routinely offered stories on the dangers of playing some of these games, both in the news and in the plots of entertainment programs. These days, an episode of a television show in which a young video game designer or an avid gamer kills someone has reached the level of cliché.

Other parents spoke to us of their concerns. These ranged from fears of children becoming living time bombs ready to reenact the violent plots of the games in the real world, to concerns about whether the games prevented kids from getting enough exercise, thereby leading to an epidemic of obesity. In other words, would they become serial killers, couch potatoes, or something in between?

Perhaps there was an emotional component to why video games in general and violent games in particular were so popular. We had noticed that our son, like many children, would sometimes isolate himself and play games on his GameBoy, game console or computer when he was feeling frustrated, angry or depressed. As adults, we could recall doing similar things, such as "vegging out" in front of a television during times of stress, or curling up with a book when we felt overwhelmed. Was this any different? Did the violence in the game matter?

This led to a fundamental question: Should we, as parents, be worried about our children playing violent video games? The research literature, which we'll examine in Chapter 3, was of little help. Too many of the studies were poorly designed, or bore little relevance to the real world. Perhaps most important, almost nobody had bothered talking directly to the children, to see what they had to say about why, when, where and how they played video games. We thought we'd try.

The Study

In 2004, we began a two-year, $1.5-million multifaceted study of violent video games and children at the Harvard Medical School Center for Mental Health and Media, which is a division of the Department of Psychiatry at Massachusetts General Hospital. The U.S. Department of Justice funded the research.[xxiv]

Our researchers came from a variety of fields: child and adolescent psychiatry, adult psychiatry, public health, clinical psychology, developmental psychology, educational psychology, public policy—we even had an evolutionary biologist working with us. This allowed us to look at the issue from a broad set of perspectives. (Our research assistants, who were recent college graduates preparing themselves for doctoral programs in psychology, relished telling their friends and parents that they had found a job that actually paid them to play video games!)

Two things separated our study from most of the research that came before us:

- We didn't have a political or social agenda, or other vested interests. We weren't out to prove a point or to defend an industry. Studying video game violence was only a small part of what we did professionally, so the outcomes of the research didn't affect our careers. We didn't own stock in the companies that developed the games or sold the hardware. Although we each had ideas about what we might find, we disagreed amongst ourselves. Some of us

were gamers; others were not. Some of us were the parents of teenage children; others were not. As researchers, we simply went wherever the data took us.

- We interviewed and surveyed a large number of children and parents to find out what they actually did, why they did it, how they felt, what they thought and what they feared. Much of the earlier research on violent video games involved artificial situations, such as having college sophomores play a new game for a few minutes in a research laboratory, or measuring fraction-of-a-second differences in how long someone blasts an air horn or triggers white noise from a computer (a surrogate, the researchers claim, for aggression or for violent behavior) after playing a violent game. *Instead, we studied real families in real situations.*

Much of what we found surprised us. The data were both encouraging and, at times, disturbing. The more we analyzed our own data and looked at other research, the more we realized that we—parents, politicians, researchers and child advocates—are probably worried too much about the wrong things, and too little about more subtle issues and complex effects that are much more likely to affect our children.

It's clear that the "big fears" bandied about in the press—that violent video games make children significantly more violent in the real world; that they will engage in the illegal, immoral, sexist and violent acts they see in some of these games—are not supported by the current research, at least in such a simplistic form. That should make sense to anyone who thinks about it. After all, millions

of children and adults play these games; yet the world has not been reduced to chaos and anarchy.

It's also clear that parents are both concerned and confused about violent video games. They are the first generation of parents to deal with children who use this technology. (Although, as we'll describe in Chapter 2, their own parents and grandparents and great-grandparents had similar fears about the new media of their day.) We want to protect our children from potentially harmful consequences, but we don't know how to do that or what those consequences might be.

We may be asking the wrong questions, and making the wrong assumptions. For example, instead of looking for a simple, direct relationship between video game violence and violent behavior in *all* children, we should be asking how we might identify those children who are at greatest risk for being influenced by these games. We should look at why children say they play both violent and nonviolent video games. (Some of the most popular games, even among teenage boys, are not violent. Our research also found that, contrary to popular belief, a few of the most popular games among teenage girls are extremely violent.) We should ask whether children who spend a lot of time playing video games are failing to learn important interpersonal and social skills, or whether they're using the games to *improve* their social relationships with peers.

Are some types of violent video games having more subtle, but potentially more destructive, effects on today's youth? Do they make sexist or racist behavior more acceptable? Do they reinforce the perception of women as sex

objects? Do they lead to increases in "under the radar" problems such as bullying?

Those are the types of questions we began asking, both through our own research and through reviews of others' research. We also looked at whether the current game rating system makes sense, and how it compares to other systems around the world.

To do this, we conducted written surveys of a diverse group of more than 1200 middle school students about where, when and why they play games. We asked detailed questions about their favorite games and movies. We asked whom they played video games with. They answered questions about bullying and destructive behavior, depression, attention problems, attitudes and feelings. They told us about their after-school activities, family and peer relationships, and more. This allowed us to see how each of these issues is related to video game play.

We also surveyed over 500 parents of these middle school students. We learned what they were doing to limit their children's access to violent video games, and how their kids often told a different story. We looked at whether they played video games with their kids, and how they used game ratings.

We conducted group interviews with 42 teen and preteen boys who routinely played violent video games. We asked about why they play those games, the influence of violent video games on their lives, what games they thought children should and should not play, and what they did that their parents don't know about.

At the same time, and in a separate room, we conducted group interviews with 21 parents of those boys. We found out how much (or how little) they knew

about their children's game playing. We learned about their fears. We listened as they told us about their efforts to monitor and control what their children played, and the information they wanted to protect their kids. We also talked about what they saw as the benefits of playing video games.

We conducted experimental research that measured critical aspects of the brain waves of college students as they played either violent or exciting nonviolent games. We also analyzed what's right and what's wrong with the designs and execution of earlier experimental research, and the conclusions drawn from those studies.

We reviewed state, national and international efforts to regulate children's access to video games. We looked at what motivates these policies, who's promoting them, whom they affect, and why most of them don't succeed.

We developed and tested a new game rating system for research that addresses more of parents concerns in a simple, clear format. We compared this new ratings system to the current ESRB system.

Finally, we conducted a survey of several hundred video game developers to find out what they think about the role of violence in games, and its effects on our children.

These Are the Good Old Days

Harold Schechter, Ph.D., a professor of English at Queens College, has focused much of his career on studying the portrayal of violence in popular culture. He states, "I have little doubt that fifty years from now, parents will be raising a howl over virtual-reality shoot-'em-ups that allow their kids to actually *feel* the

splatting blood from the blown off head of a holographic zombie, and that they will pine for the idyllic days of 2004, when children enjoyed such harmlessly cartoonish pastimes as *Resident Evil* and *Grand Theft Auto*. From the vantage point of the present—when the latest state-of-the-art entertainments seem to offer unprecedented levels of stimulation and lifelike gore—yesterday's popular culture always seems innocent and quaint."[xxv]

The Ultimate Video Game

Our research team has gathered at the Boston offices of the Federal Bureau of Investigation to get a glimpse at the future. Special Agent Ed Kappler, the chief firearms instructor, is demonstrating what some people in law enforcement call the ultimate video game: FATS, the firearms training system.

The equipment looks more like a home theater than a gaming system. A video projector sits in the center of the room. Special Agent Kappler is in the back corner, typing instructions into a computer. He introduces us to another senior agent who will demonstrate the system by going through a simulated "incident." This agent has nearly 15 years of field experience. He's been through a lot of advanced training in law enforcement. He's on the FBI's SWAT team. Clearly, he's a man who knows what he's doing. He's the levelheaded guy you'd want by your side during a crisis.

The agent picks up a specially modified standard-issue pistol that fires a laser beam instead of bullets. Compressed air simulates the "kick" of firing real ammunition. Special Agent Kappler dims the lights as a life-size video image is projected on the wall. We hear the premise behind the scenario: "You've been

called to a government warehouse after closing time following a report of suspicious activity."

We see several stacks of corrugated boxes inside the warehouse and hear the creak of a metal door opening to the right. A man walks in carrying another box.

"FBI! Put down the box and show me some identification." The agent startles us with the intensity of his voice. It is practiced and forceful. He is taking control of the situation. He has drawn his gun, but is keeping his trigger finger alongside the barrel, away from the trigger itself.

"Good evening!" says the man on the screen, who's wearing slightly scruffy work clothes. "I'm the shift supervisor. I just needed to finish a few things before leaving."

"Put down the box, and show me some identification *now*!" says the agent.

"OK, OK. Just give me a second." The man places the corrugated box on top of the others. He then jumps behind them, quickly pulls out a pistol and fires at the agent. (In another version of this scenario, the man with the box takes out an ID card that proves that he really is the shift supervisor, not a thief. The agent going through the simulation, as in real life, never knows what's going to happen.)

After diving for cover within our darkened room, the agent fires at his attacker with two sets of double-taps: pop-pop, pop-pop. Each of us can feel our hearts beating more quickly, even though we're just observers and are acutely aware that this is only a simulation.

The projected image on the wall freezes as the lights come back on. The FBI agent holding the simulator's laser-firing gun is sweating. Special Agent

Kappler asks him to recount what just happened, to tell step-by-step what led up to the incident and to his decision to fire back.

Surprisingly, to us at least, the FBI agent can't give a detailed or even a clear account of what transpired. He's a consummate professional. He's been through hundreds of these FATS scenarios. He's trained to observe and recall exactly this type of information at a crime scene. Yet his heart is beating so quickly and his nervous system is so aroused that he can barely get more than a few words out.

And it's only a game.

Special Agent Kappler replays the scene on the wall as we watch. The computer has calculated when the FBI agent's shots were fired and where they hit. The first entered a corner of a box; the second and third hit the perpetrator in the shoulder. The fourth hit the wall.

The FATS system we're using is designed not to test or improve marksmanship. Rather, it helps improve agents' judgment on when to use lethal force. Except for the ability to replay the incidents and to trace the path and timing of the agent's bullets, the system is fairly primitive. The on-screen characters don't respond in different ways based upon what the agent says or does. The instructor has no way of knowing whether the perpetrator's opening shots would have hit the agent. Future versions of the system are likely to incorporate such features.

Still, the nature and size of the projected images, and the cold metal feeling of an actual pistol in your hand tell your body that this is quite different from seeing those same images on a small computer screen, and responding by

using a keyboard or a plastic joystick. The threat feels real, and your body responds at a cellular level.

Next, one of our researchers tries FATS. She's a developmental psychologist, not a trained police officer, although that's the role she will be playing in the simulation. Special Agent Kappler shows her how to cock the gun and move its safety switch so that it can fire the laser beam. She's nervous but excited.

The room lights go out as a video image appears on the wall. She's told that she is supposed to back up her partner, a young uniformed female officer who is questioning a suspect who's standing on the sidewalk. The muscle-bound man on the screen is easily twice the unformed officer's weight. He's skittish and uncooperative. He reaches out to touch the officer's shoulder.

Special Agent Kappler coaches our researcher to say something that will help her regain control of the situation. "Don't do that!" she says to the man on the screen. Her voice is surprisingly dry and weak, as if her body is unsure of whether to be aggressive or to flee.

We watch as the man on the screen grabs the police officer, quickly takes her gun from its holster and holds it to her head. She is now a human shield, trapped between the violent armed perpetrator and the backup officer—the game player. "Get out of here, or she dies!" he yells. The police officer he's threatening looks terrified.

Our researcher has her gun drawn. Should she fire at the man holding the gun? If so, will she hit her partner? Will he kill her partner anyway? What about the children who are playing on the street behind him? What about her own safety?

Special Agent Kappler freezes the video and turns on the lights. Our researcher's hand is shaking. Her breathing is quick and labored. The pupils of her eyes are clearly dilated. Her mouth is dry.

We've been watching the clock. "How long do you think that incident took?" we ask her.

"Between five and seven minutes," she replies. "Maybe a little more."

"Actually, it was 17 seconds."

We have glimpsed one path toward the future of video games.

Violence vs. relevance

One reason why the experienced FBI agent may have had so much difficulty recalling the details of the incident—indeed, he had more trouble than our researcher, who was simply pretending to be a police officer—is the relevance of the information. To our researcher, the incident in the game was very different than the daily events in her life. She knew that it was highly unlikely that she would ever be put into that situation with a real gun and real lives on the line. Her intense emotional experience was, at its roots, similar to what she would feel watching a well-produced adventure movie or reading an exciting novel.

For the FBI agent going through the warehouse theft simulation, the experience was different because the context was different. He knows fellow agents who've been shot at and, indeed, he may have been shot at himself. He understands that in the course of his work he will have to stop quite a few suspicious characters. Some of these people will be armed; a few may even try to kill him. To the FBI agent, it is not just a game. The situation, people, equipment

and responses are all realistic and relevant to his daily life. His emotional and intellectual frames of reference are completely different than those of our researcher.

We saw hints at this important difference when we interviewed young teenagers and preteens who routinely played violent video games. While many of them enjoyed the ability to shoot people, drive tanks, blow up buildings, steal cars, evade the police, massacre aliens and stab zombies, they recognized that these actions were fantasies.

They knew this was play. They also knew that they were unlikely to be in the situations that form the pretexts of the violent games.

James: "Really violent games, like in *Vice City* where you can just go around killing anybody, they're less realistic. The environment, the people are real, but not the actions."

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Carlos: "But if you're like angry, angry at someone, and you really want to take out your fear on him, you just play a game. It's like that's taking out fearing all for you."

Researcher: "It takes out your anger and your fear?"

Carlos: "Yeah."

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Josh: "When I play videogames, it's like I have a power. I have a power to do anything. I can get away with it. If I wanted to kill, I could. So don't mess with me….

"I wouldn't be able to kill somebody [in real life]. But in video games I could. It's a video game!"

Indeed, when they did express violent urges based on video game situations or characters, those urges almost always were directly related to their day-to-day concerns and frustrations as children, as well as normal childhood fantasies.

Researcher: "Which character would you like to be?

Vinnie: "Sub-Zero [a ninja-like character in *Mortal Kombat*]. Sometimes I have dreams of being him."

Researcher: "And what would you do?"

Vinnie: "Freeze people. Freeze time—then I could get out of school early. Nobody would see what time it is."

Carlos: "Freeze the teacher."

Vinnie: "Yup, can't get us! …I'd freeze the entire world, and make my own kingdom."

Carlos: "I would be Scorpion [a "reincarnated specter" in *Mortal Kombat*]."

Researcher: "What would you do with your day as Scorpion?"

Carlos: "I can just tell the teacher to not give me homework. No, don't give me homework."

Researcher: "So you'd stop people from doing things you don't like."

Carlos: "Yeah."

Vinnie: "I love his costume, actually."

Carlos: "And I'd rule the world with my brother. We would make everyone wear cool costumes."

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Josh: "I like Jin [a character in *Tekken Tag Tournament*] because he's the most powerful fighter out of all the fighters."

Researcher: "How would you be like Jin if you could be?"

Josh: "When somebody's getting bullied or something, and they can't defend themselves, I'd just go help them out."

When we asked these groups of preteens and young teenagers who routinely played violent, M-rated (age 17+) games how old they thought someone should be before playing such games, they gave a predictable answer: 12 or 13 years old—roughly a year younger than they were. At the same time, they were very concerned about younger children playing violent video games, and often expressed the same logic and even used the same words that their own parents used when explaining why young teenagers should not be allowed to play violent, M-rated games.

For the most part, however, it was not the violence that these children wanted to protect their younger brothers and sisters from. It was the language. In

group after group, the children showed deep concern about what they called "swears."

That was, we came to realize, something that directly applied to their lives. They might not be able to blow up a car, fire a submachine gun, freeze an opponent, battle a zombie, or engage in a Samurai-style tournament in the real world. But they could swear. It was the use of language that most easily bridged the gulf between their fantasy game worlds and reality.

Justin: "Little kids, they don't know the basic meanings of life. So once they see that, they're going to think, 'Oh, that's how life goes. You can swear and go around hitting people.'"

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Ivan: "I wouldn't let my little sister play *True Crime: Streets of LA* [a violent game in which the player takes on the role of a recently suspended Los Angeles police officer who fights street gangs, drug runners, corrupt cops and even zombies] because they say swears."

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Matthew: "I don't like my little brother or sisters to watch me play *Grand Theft Auto: Vice City* because of the language. They might swear at other people 'cause of the attitude—how they do it in *Vice City*. They always give people attitude and swear at other people [in the game]. And that could make my family look bad, like my mom isn't raising us regular or anything."

The other issue that struck close to home with these young teenagers and preteens was sex—but quite differently from the way that many parents expected or feared. The children's normal adolescent awkwardness and concerns came out in the way they responded to the sexual content of some of the video games.

Researcher: "Are there any games that you think you shouldn't be allowed to play at age 13?"

Patrick: "Sort of like…*The Sims* [a nonviolent game in which the player creates computer-simulated people and their environment]".

Ramon: "Yeah, *The Sims*. 'Cause they go to people and, like…." (pause)

Patrick: "They go to, like, people and, like…." (pause)

Ramon: "Kiss."

Patrick: "Yeah."

Researcher: "So, because of the kissing, you don't think you should be able to play that game. How old should you have to be?"

Ramon: "Kissing. Like, 15."

Patrick: "15, yeah. Maybe 14."

Josh: "I agree with both of them."

Randy: "Also, *BMX XXX* [a game that combines a BMX bike competition with videos of naked women in a strip club. It was a

public relations disaster for the publisher, which soon filed for bankruptcy.]"

Researcher: "How old would you have to be to play that game?"

Randy: "20."

Josh: "I disagree. You could be like 17 or 18. If you're 18 and you still live with your mom, and your mom comes in the room and you just beat the level and she sees the girl pull up her shirt…."

[There's nervous laughter from the kids in the room.]

Researcher: "So, obviously you've played this."

Patrick: "See, he's played it!"

Josh: "No, I haven't!"

Researcher: "Well, how do you know what she did?"

Josh: "'Cause in a magazine…."

Researcher: "You read about it."

Josh: "Yeah."

Ramon: "There's this new game coming out called *Playboy: The Mansion* [a game in which the player takes on the role of Hugh Hefner in both his business and private lives.]"

[Some of the kids in the room gasp.]

Ramon: "That's not good for 8 year olds."

Patrick: "That's for, like, 20 year olds."

Josh: "That's for, like, 100!"