EXHIBIT 4

IN THE UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

ENTERTAINMENT SOFTWARE ASSOCIATION, et al.,	)	
Plaintiffs,	)	No. 05 C 4265
v.	)	Chicago, Illinois
	)	November 15, 2005
ROD BLAGOJEVICH, et al.,	)	9:45 a.m.
Defendants.	)	

TRANSCRIPT OF PROCEEDINGS
BEFORE THE HONORABLE MATTHEW F. KENNELLY

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* * * * *

A Yes. Well, yeah, identified by a clinical instrument.
Q But you've certainly never testified here or in any other place that the courts of this country or the legislatures of this country should suppress video games because they cause clinical problems, have you?
A Oh, no. Never.
Q And that's not your opinion today?
A That's not my opinion, no.
Q Now, going back to the aggressive model then, is it fair to say that all of that portion of your testimony was an explanation of the kinds of psychological effects in terms of feelings and thinking that leads ultimately to what you predict would be greater aggressive behavior down the road?
A Yes.
Q And that is really the gist of what that whole model is about is explaining behavior ultimately?
A Yes.
Q Now, you would agree, wouldn't you, that the evidence that exposure to a violent medium is clearer with respect to other media, like TV and movies, than it is with respect to violent video games?
A Yes.
Q And the effect sizes, putting aside the fact that there's vastly more research on the TV side and that the evidence is much clearer, the effect sizes that have been calculated by

people in your field are about the same on both sides of that line?

A Yes, for the most part.

Q So, that's about a .2 correlation, you said --

A Right.

Q -- is roughly where we are?

A Yeah, roughly.

Q Or about 4 percent of the variance; is that right?

A Four percent of the variance here is a statistical concept. It's not easily translated into understandable terms, but yes.

Q But that is, in fact, the statistical concept. You square the correlation, and you get the R squared, and that gives you the 4 percent of the variance. Now, you were about to clarify that that's --

THE COURT: Hang on just one second, Mr. Smith.

(Brief pause.)

THE COURT: Go ahead.

BY MR. SMITH:

Q That 4 percent of the variance, roughly speaking, doesn't mean that exposure to violent media causes 4 percent of the aggression among people who'd had that exposure, does it?

A Right. It does not mean that.

Q What it means is if you could somehow -- for example, in the experimental context, if you expose a pool of people to games, either a violent game or a less violent game, and then

you give them sort of a test, like the noise blast, you're going to have a vast range of difference in terms of how long they hold that button down or how hard they push it, and of that vast range, only 4 percent of that variation is in any way statistically linked to the fact that they've just either played a violent game or a nonviolent game?

A Yes.

Q 96 percent of that variation has to do with something else altogether in what they brought into the room?

A Yes.

Q And, in fact, just so we understand it, if you look at the research overall, in your judgment, if you're trying to predict not immediate aggressive behavior like noise blasts, but long term criminal behavior, serious violence, the effect size is actually quite a bit less than .2; isn't that right?

A If you're trying to predict -- yeah. It tends to go down the more severe form of aggressive behavior one is looking at, and that would be true of any predictor.

Q Right. Because it's farther away and because it's a rare event?

A Essentially, yes.

Q Now, just so I understand it, this .1 or -- it's more like .1 for the more serious violence?

A It ranges from about .13 to a little bit larger, but the .13 is one estimate that gets used a lot.

Q Okay. And what these measures are, this .13 or this .2, are a correlation -- a perfect correlation is a 1.0?
A Yes.
Q And a perfect negative correlation is a zero; is that right?
A No. A perfect negative is a minus one.
Q The absence of correlation is a zero; is that correct?
A Yes, exactly.
Q And so, these are on the scale -- from the absence of correlation to a perfect correlation, they're at .13 or .2, and that scale runs from zero to one; is that right?
A Well, it runs from minus -- yeah, okay. Minus one, plus one, and zero being nothing. Okay.
Q Now, Professor, you don't believe, do you, that media exposure of any kind by itself causes anybody to engage in violent behavior?
A No.
Q You consider it just one of what you call risk factors?
A Exactly.
Q And in order for somebody to end up being a person that would engage in violence, they have to have been exposed to a number of different risk factors?
A Typically, yes. More extreme forms of violence usually you can identify a number of risk factors.
Q But your belief is that in all cases for somebody to --

that media violence alone can't be the only risk factor?
A Except in rare cases of imitation, which we really haven't talked about, where one directly copycats -- young children in particular have a tendency to imitate exactly what they see. That's a relatively rare phenomenon.
Q But in terms of what we're talking about here, which is long term effects leading to people growing up to be more aggressive people --
A Yes, exactly.
Q -- you need to have risk factors like poverty or abuse in the family or some sort of violence in your environment that you grow up?
A Yes.
Q Something like that, right?
A Exactly.
Q Or you would look at genetic factors?
A Certain genetic factors are also risk factors, yes.
Q Are there other powerful risk factors other than those we've just named here that come to mind?
A Gang membership, or sometimes it's called antisocial peers. There's probably a dozen or so. I mean, it varies a little bit depending on who's writing the report, but there's about a dozen or so such factors.
Q Now, you would say that exposure to a violent TV show or a video game is a risk factor for everyone?

A Yes, in the sense that to date there really haven't been any particular groups or subgroups identified that seem consistently immune -- you know, totally immune, but there probably are groups, certainly in the television violence literature, that are more susceptible.
Q Right. Because they have other risk factors?
A Well, it's beyond the number of other risk factors, but yes.
Q Certainly whether it's a risk factor for everyone or not, you don't believe, do you, that most people who are exposed to a healthy dose of violent TV or video games will end up committing a lot of violent acts in their life?
A If by healthy, yeah. I mean --
THE COURT:. You'd call it unhealthy.
BY THE WITNESS:
A I would call it unhealthy dose. But, no, I agree with the gist of the statement.
BY MR. SMITH:
Q In fact, the vast majority of the kids that are out there playing video games right now that you consider violent video games are going to grow up and be just fine; isn't that right?
A I would guess that -- I would predict that, yes.
Q And when you talked in your testimony about how children who are exposed to violent video games tend to become social rejects and that leads to a greater series of psychological

problems, you don't consider most of the kids who are playing violent video games or other kinds of video games right now to be social rejects, do you?

A Oh, I don't believe I said -- it may have been misunderstood.

Q Well, you did say that was one of the -- I'm sorry.

A What I was trying to convey was that kids who become more aggressive, for whatever reason, tend to go off on this developmental trajectory where their relationships with their parents deteriorate, relationships with teachers deteriorate, and so on. But I did not mean to imply that there's any research saying that violent video games has led to this increase in aggression and that we now also have evidence that they become the social rejects and blah, blah, blah.

Q Right. Whatever effects the video games have, they don't lead to the kind of aggression which you said leads people to have problems with their teachers and their families and their peers?

A It's another risk factor. It's one of many.

Q And the reality is, of course, that a large majority of kids these days are playing these games; is that right?

A It looks like, yes, a majority of kids are at least occasionally playing some violent video games, the vast majority.

Q And one of the reasons for that is because when you use the

term violent video games, you're talking about games that range all the way from Sonic The Hedgehog, which you've just mentioned, up through Mortal Kombat and beyond, up to Grand Theft Auto; is that right?

A Yes. Although, obviously, there are degrees of violent content.

Q Sure, there are degrees, but in your world view, an E-rated game that's rated absolutely appropriate by the industry for everyone, like a Sonic The Hedgehog game, is a violent video game that can be harmful to kids of any age and to adults, for that matter; is that right?

A Yes. We have some research evidence that -- not on Sonic The Hedgehog game, but on some other E-rated games.

Q You did just mention that as one of the games that was being used in those prior studies?

A Right.

Q As one that would be a different comparison than a billiard game because it is more violent?

A It's more violent than the billiard game, but it would still be on the low violent.

THE COURT: I suppose not if you're the billiard ball.

THE WITNESS: Well, that's true.

MR. SMITH: Fair point, your Honor.

BY MR. SMITH:

Q Now, Professor, you can't sit here and tell us how much

violence would be reduced in the world if we were to, in fact, cut off people under 18 from buying games that are covered by the statute, can you?

A No.

Q And that's for a whole variety of reasons. For one thing, you've never tried to do any calculation of what percentage of the violence in this country is, in fact, caused by exposure to violent media, have you?

A That is correct.

Q And we also know, don't we, that most of the games that are played by people under age 18 are bought by their parents, right?

A I don't know that.

Q You don't have any information about that subject?

A Some of my coauthors in various papers may have, but I don't recollect. I mean, I wouldn't be surprised, but I don't know.

Q Well, does the psychological literature tell us anything about what happens if you cut off access to one particular medium or one particular set of games in terms of what kids do to replace that in their media diet?

A Not that I know of.

Q Do you have any basis to say whether or not if, in fact, we had an effective mechanism that said we're not going to let the kids in Illinois have any more access to violent video games,

* * * * *

Q You could tell us that sitting here today?
A I could tell you that with certainty.
Q But you didn't know that at the time of your deposition?
A Correct. I did not.
Q And as this book went to the publisher, nobody had bothered to try to partial out the effects of TV and movie violence?
A When it went to the publisher for review, it had not, right.
Q Now, I want to ask you a few questions, if I could, Professor Anderson, about how the research relates to the statute that we actually have in front of us. At the time of your deposition, you actually hadn't read the statute, except for the findings; is that right?
A That is correct.
Q Have you read it now?
A No.
Q Are you aware, for example, that the statute only regulates access for people under 18?
A I have heard that, yes.
Q And the reality, though, is that the research that you've done and others have done on video games does not support any hypothesis that people under 18 are more vulnerable to these effects you've been talking about than adults; is that right?
A Right. That is correct. In the video game literature, there's not a clear age vulnerability, I guess, would be the

word I was looking for.
Q Yet earlier in your direct testimony when you were dealing with Professor Williams' study, you said that because his average age was 27, we wouldn't expect to see the kinds of effects that you found in your two to six-month study because that involved children. The reality is that the vulnerability is the same.
A Lack of evidence of a vulnerability effect is not the same as there being no vulnerability effect.
Q So, it may be that --
A There is, in fact, some evidence, fairly good evidence, in the television violence literature that long term effects are bigger for children than for older individuals. A lot of the studies in the video game domain, I mean, where we're looking at the shorter term effects, it's not clear to me that there should be bigger effects on children than adults in a short term context.
Q Such as a month or a three-month study?
A No. I'm talking about a one-hour study where we're dealing with priming effects.
Q So, in the one-month context, turning back to Professor Williams' study, the fact he had an average age of 27 doesn't -- there's no reason to think based on the research that that population average would be less vulnerable to effects than some other age?

A Not in the video game literature. In the television literature there is.
Q Now, you also have set out in your research to try to determine whether games that are more graphic and more realistic have a greater impact than games that are more cartoonish --
A Right.
Q -- more juvenile, right?
A Yes.
Q And, surprisingly, you found no difference at all, right?
A Correct. I mean, in terms of mean differences, there was a slight hint, but not anywhere near, you know, statistical significance.
Q Well, and the slight difference that you found that was statistically insignificant was that the E-rated games, the most childish cartoonish games, were more harmful than the T-rated games, the more realistic and violent ones, right?
A Oh, I was thinking about a different study. I'm sorry.
Q Well, let's focus on the one I remember, which there was an experiment in which you focused on --
A Yes.
Q -- teenagers' access. You did an experimental study.
A Right.
Q You had teenagers play little kid games and games like James Bond, more T-rated games, right?

A Yes.
Q And you found that they became more violent on your measures of aggression when they played the E-rated games than the T-rated games, right?
A Yes, for that sample. Although, as you said, that wasn't a statistically reliable difference. That is, the T violent games versus the E violent games.
Q Right. And the E-rated games that showed up to be marginally more harmful, although maybe not quite statistically significant, those were games with like happy music and little cartoony characters?
A Yes.
Q Now, you also set out to test -- I think you mentioned in your direct testimony whether or not changing the nature of the victims that you attack in your play from green-blooded aliens to red-blooded humans might change the effect. I believe you didn't give the answer, but the answer is there's no difference at all, right?
A The answer is there was no statistically significant -- and that's what I was just referring to a couple minutes ago. There was a hint, but it was not close to significant.
Q So, there's no support in the research that you've done or that you can report on video games for saying that games that single out humanlike victims ought to be treated differently from games that have alien victims?

A That is correct.
Q Now, you mentioned a couple of times that there are other kinds of stimuli other than video games that can kind of trigger this GAM model that you have, and I think you've mentioned a couple times that just viewing a picture of a gun can lead somebody in experimental research to be more aggressive?
A Yes, that's true.
Q In fact, you did a study like that and published it, right?
A Yes.
Q And what that illustrates is that there are probably almost an infinite number of stimuli that you could give somebody in one of these experimental situations and show some immediate priming of slightly more aggressive behavior in the aftermath, right?
A Infinite is very big, but yes. Stimuli that are associated with aggressive thinking.
Q Yes.
A It would be a very large number.
Q So, the fact that you have focused on video games is largely a matter of your choice rather than some suggestion that they're different from the large number of other things that could have exactly the same effect in the experimental context, right?
A Yes.

EXHIBIT 5

IN THE UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

ENTERTAINMENT SOFTWARE ASSOCIATION, VIDEO SOFTWARE DEALERS ASSOCIATION, and ILLINOIS RETAIL MERCHANTS ASSOCIATION,	)	
Plaintiffs,	)	
vs.	)	NO. 05C 4265
ROD BLAGOJEVICH, in his official capacity as Governor of the State of Illinois; LISA MADIGAN, in her official capacity as Attorney General of the State of Illinois; and RICHARD A. DEVINE, in his official capacity as State's Attorney of Cook County,	)	
Defendants.	)	

DECLARATION OF JEFFREY H. GOLDSTEIN

Pursuant to 28 U.S.C. § 1746, I, Jeffrey H. Goldstein, under penalty of perjury state as follows:

Biographical Information

1. I received a PhD in psychology from Ohio State University, following which I was professor of psychology at Temple University (Philadelphia) from 1969 to 1992. Since 1992 I have been with the Department of Social and Organizational Psychology at the University of Utrecht, the Netherlands. Among the books I have written or edited are *Aggression and Crimes of Violence* (Oxford University Press), *Toys, Play and Child Development* (Cambridge University Press), *Why We Watch: The Attractions of Violent Entertainment* (Oxford University Press), and the *Handbook of Computer Game Studies* (2005, MIT Press), for which I wrote a chapter on violent video games. My CV is attached to this Declaration (Exhibit A).

2. I am a Fellow of both the American Psychological Association and the American Psychological Society. I serve on advisory committees of the Netherlands Institute for the Classification of Audiovisual Media, responsible for rating films and television programs, and PEGI, the European video game rating system. I was co-organizer of the first international Digital Games Research Association congress in 2003

(www.digra.org). As a consultant, I summarize psychological research about play and media for clients.

3. My research on aggression and entertainment tends to be conducted, not in an experimental laboratory with college students as participants, but in natural settings, in schools (Jukes & Goldstein, 1993), at movie theaters (Goldstein, Rosnow, Raday, Silverman, & Gaskell, 1975), at sports arenas (Russell & Goldstein, 1995), in prisons (Cooke & Goldstein, 1989), hospitals (Goldstein, Mantell, Derks & Pope, 1989), and a home for the elderly (Goldstein, Cajko, et al., 1997). This reflects my belief that entertainment cannot readily be studied in the experimental laboratory.

4. This statement on the effects of video games was prepared at the request of Jenner & Block, Washington, D.C. in the case of Entertainment Software Association, et al., v. Rod Blagojevich, et al.

Introduction and Purpose

5. If one looks carefully at the methods and results of research on violent video games, there is little that is consistent or convincing. There is no compelling evidence that violent video games cause violent behavior. Many reviews concur that inconsistencies and ambiguities in the research prevent any sound conclusion about the effects of violent video games on aggression (Bensley & van Eenwyk, 2001; Cumberbatch, 2001; Federal Trade Commission, 2000; Goldstein, 2005; Griffiths, 1999; Gunter, 1998; Lager & Bremberg, 2005; Newman, 2004; Olson, 2004; Schechter, 2005; Unsworth & Ward, 2001; van Feilitzen, 2000).

6. It is not the purpose of this statement to provide a comprehensive overview of research on violent video games. Rather, a number of studies and literature reviews are presented that cast doubt on the reliability, validity, and applicability of the research relied on in the declarations of Drs. Anderson, Murray, and Rich. Weak and inconsistent results, dubious assumptions, questionable methods, and overgeneralizations from the data are noted in the psychological research.

Problems of definition – violence and "violence"

7. When people refer to 'violent video games' or 'violence in the media' they rarely distinguish between real violence – people hurting one another as in war or a slap in the face – and symbolic or fantasy violence, in which characters engage in mock battle. Psychologists define violence or aggression as the intentional injury of another person. However, there is neither intent to injure nor a living victim in a video game. For example, the statement submitted by Dr. Michael Rich says that "*the best-selling video games awarded points for violence against others* (¶ 42)" and that in so-called first-person shooter games "*the player is rehearsed in and rewarded for committing a variety of crimes, including murder* (¶ 43)." But no crimes are committed here; there is no literal killing, only fantasy play. Aggressive themes have always been part of play and entertainment (Guttmann, 1998; Twitchell, 1989), and those who enjoy them are aware of

the difference between real aggression and fantasy violence (Holm Sorensen & Jessen 2000; Holmes & Pellegrini 2005).

8. Studies of elementary school children often fail to distinguish between aggressive play and aggressive behavior (for example, Irwin & Gross, 1995). After playing a martial arts video game, children, boys especially, are likely to engage in martial arts play-fighting. To some adult observers, the children appear to be acting aggressively, when in fact they are playing, with no intent to injure anyone. An experiment by Cooper and Mackie (1986) of Princeton University found that, although violent video games influenced the post-game play of 10-11 year olds, the video games had no effect on interpersonal aggression. In their review of research on video games, Lager & Bremberg (2005) conclude that playing video games increases preference for aggressive toys, but has no effect on aggressive thoughts and no consistent effect on aggressive behavior.

How we know it is "violence" and not violence

9. The same features that inhibit an opera audience from rushing the stage to prevent 'murder' are present in video games. There are physical cues to the unreality of the violence before you, including the willing suspension of disbelief, and the knowledge that you have control over events, by pausing or stopping play altogether. In video games, there are sound effects, scorekeeping, a joystick or keypad in your hand, and often playmates commenting on the performance. Without background music, special effects, or fantasy characters, images of violence lose their appeal (McCauley, 1998). As with other forms of entertainment, such as film and literature, the violence in a video game is embedded in a fantasy narrative.[1]

10. A meta-analysis by Sherry (2001) found that the effect size of violent video games on aggression was greater if the target in the game was an inanimate object rather than an image of a person. This evidence seems inconsistent with the notion that the growing realism of videogame images will strengthen the association between aggressive behavior and violent video games.

How is aggression measured?

11. It is not possible to observe real aggression in the laboratory, so researchers must improvise indirect indicators of potential aggressive behavior. For example, the following have been used in video game research as measures of aggression:

- hitting an inflatable 'bobo doll' (Schutte & others 1988)
- coding children's interpretations of ambiguous stories (Kirsh 1998)
- listing aggressive thoughts and feelings (Calvert & Tan 1994)

[1] However, in laboratory experiments violent images are removed from the story context, and games are played for only a few minutes, thus depriving them of the play element.

- administering blasts of white noise to an unseen person, in the 'teacher-learner' paradigm[2] (Anderson & Dill 2000; Bartholow & Anderson 2002)
- withholding money from another (Winkel, Novak & Hopson 1987)
- 'killing' characters in a video game (Anderson & Morrow 1995; Ask, Autoustinos & Winefield 2000)
- time elapsed to recognize aggressive words (Anderson & Dill 2000).

In my professional opinion these are inadequate measures of aggressive behavior.

12. According to Freedman (2001), it is difficult to do adequate experimental research on violent video games. It is difficult to find two video games that are equal in all respects except one of them contains violence and the other does not. Only then could we be sure that, if they have different effects, this is due to the violent content and not to some other feature of the games, such as their level of excitement, involvement, activity, or sound effects. Furthermore,

> *"when experimenters choose a violent game, they may be giving the message that they approve of such games and might therefore approve of or even expect the subjects to behave violently.... The possibility of [experimenter] demand causing the results is not unlikely or far-fetched. It is a well-known phenomenon in experimental research and a continual almost ubiquitous source of problems in interpretation... This leaves almost all of the results open to the alternative and uninteresting interpretation that they are caused by demand factors rather than the variable of interest, namely the direct effect of violence in the video game"* (Freedman 2001).[3]

Selected reviews of research on violent video games

13. Statements about the consistency of research data and consensus within the scientific community about the effects of media violence are incorrect. For example, Anderson (¶7) claims that "*There have been numerous reviews by a variety of expert panels and commissions, all coming to the same conclusion that exposure to media violence is a risk factor for aggression and violence.*" [emphasis added]

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[2] The teacher-learner procedure involves telling research participants that they are 'teachers' who can use blasts of noise or electric shock as punishment to teach a task to an unseen 'learner.' A related procedure is the 'competitive reaction-time task' in which the research participant competes with an unseen 'opponent' and can set the level of noise the opponent will receive should he or she lose the competition. For criticisms of these methods see Tedeschi & Quigley (1996) and Ritter & Eslea (2005).

[3] It is possible to do videogame research of a high standard. One excellent example is the series of correlational and experimental studies by Green & Bavelier (2003) on violent video games and visual skills.

14. Many reviews of research on violent video games have concluded that the evidence of a causal connection between violent video games and aggressive behavior is weak or non-existent: Bensley & van Eenwyk, 2001; Cumberbatch, 2001; Federal Trade Commission, 2000; Goldstein, 2005; Griffiths, 1999; Gunter, 1998; Lager & Bremberg, 2005; Newman, 2004; Olson, 2004; Sacher (1993) Schechter, 2005; Unsworth & Ward, 2001; van Feilitzen, 2000. Following are selected comments by reviewers.

15. Anderson & Dill (2000) review published studies on video games and aggressive behavior, and note that every study suffers from flaws in methodology, ambiguous definitions, is open to alternative explanations, or reports inconsistent findings. "*In sum,*" write Anderson and Dill, "*there is little experimental evidence that the violent content of violent video games can increase aggression in the immediate situation.*" [Compare this with Anderson ¶11, 12.]

16. Washington State epidemiologists Bensley & van Eenwyk (2001) note: "*At present, it may be concluded that the research evidence is not supportive of a major public health concern that violent video games lead to real-life violence.*" Because of mixed results, the research indicates that at this time "*it is not known whether video game play affects aggression or hostility in this age group.*"

17. Cumberbatch (2001) reviewed research on violent video games for the (British) Video Standards Council (www.videostandards.org.uk). He writes that it is "*difficult to attach much value to studies that have failed to control for demographic differences such as age, social class and ethnicity, which are related to both video habits and to delinquency patterns.*"

> "*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 used more often in this field as instruments of torture on the data until it confesses something to justify a 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.*"

18. The Federal Trade Commission (2000) report, *Marketing violent entertainment to children*, contained a review of research on the impact of violence in entertainment media. Concerning violent video games, the FTC concludes:

> "*Most researchers are reluctant to make definitive judgments at this point in time about the impact of violent electronic games on youth because of the limited amount of empirical analysis that has so far taken place. Although some surveys of the literature lean toward seeing a detrimental effect from playing violent video games, others are more skeptical.*"

19. Griffiths (1999, pp. 209-210) concludes, "*The majority of studies on very young children tend to show that children become more aggressive after playing or watching a violent video game, but these were all based on the observation of free play.*" [emphasis added]

20. In his overview of video game research, Gunter (1998, p. 109) concludes, "Even with experimental studies, there are problems of validity that derive from the fact that they do not measure 'real aggression' but rather simulated or pretend aggression."

21. Child clinical psychologist and crime novelist Jonathan Kellerman calls media violence 'the scapegoat we love to hate.' Concerning juvenile crime he writes, " *If increased public safety is our goal, efficiency also dictates that we cease pouring money into research and clinical activities that have little direct impact upon rates of child criminality. A prime example of such diminished returns is the flood of studies conducted on the factor most often blamed for childhood criminality: media violence"* (1999, p. 71).

22. A review by the Swedish Public Health Institute (Lager & Bremberg, 2005, www.fhi.se) examines research consisting of randomized controlled experiments, controlled experiments, and prospective longitudinal studies (these were studies of obesity). The following were studied in at least three experiments: spatial abilities, reaction time, aggressive play, aggressive thoughts/interpretations, aggressive feelings and aggressive behavior. The studies of spatial abilities and reaction time were of high quality and consistently showed positive effects. The studies give limited support for video game playing leading to a choice of aggressive toys, but it is unclear how to best interpret this since the studies do not lend support for links between the players and aggressive feelings, thoughts or behaviors although many studies on this subject have been conducted. In addition to toy selection, three aspects of aggression were studied: aggressive feelings, aggressive thoughts and aggressive behaviors. In the studies the experimental group has generally played a violent computer game in a laboratory for 10-45 minutes, and the participants have thereafter answered questions from standardized questionnaires or have been placed in a situation where the researchers have been able to study their behavior towards another person. The subjects have frequently had to punish the other person, for example, by playing loud sounds in his/her headphones.

> "*These studies show expected effects only in studies where initial measurements have not been taken... An opposite effect has been shown on aggressive thoughts, i.e., a decrease in occurrences of aggressive thoughts in the group who played computer games*" (p.13)
>
> "*This implies, all in all, limited support that video and computer game playing cause children to choose more aggressive toys afterwards – but no support for links between computer game playing and aggressive feelings, thoughts or behaviors although these outcomes are well studied. The fact that the choice of toys is affected, points to the fact that the contents of the games are not passing by unnoticed by the children, but whether the choice of toys in the studies primarily should be interpreted as an expression of aggressiveness could perhaps, in the light of the other*

studies, be discussed" (p.14)

23. Newman (2004) writes that attempts to link videogames with horrific events such as shootings is political, as is the use of 'addiction' as a metaphor for repeated play. Newman notes the "inconclusive and often contradictory" findings of research, and the fact that 'methodological flaws blight many of the studies,' for example, 'there is no consistency in the definitions' of violence and aggression. *"Glib statements relating aggression to game playing, whether appearing in the mass media or scientific journals, seem totally unwarranted"* (pp.67-68). The problem with research on violent videogames, says Newman, is the idea that you can understand the effects of a videogame from a superficial glance at its 'violent content' (p. 69).

24. Olson (2004), of Harvard Medical School, challenges statements about the relation between violent video games and real-life violence. She notes that between 1994 and 2001 there was a broad decline in juvenile arrest rates for violent crimes. *"There is no indication that violence rose in lockstep with the spread of violent games"* (p. 146).

> *"Several academic studies (primarily experiments) have received broad coverage in the popular media and are cited by the press and some advocacy groups as evidence that video games create dangerous, aggressive thoughts, feelings, and behaviors. Local, state, and federal legislation, including criminal penalties for selling or renting certain games to minors, have been introduced based on these studies"* (p. 146).
>
> *"Here are some of the limitations of current studies as a basis for policy making...*

- *Vague definitions of aggression. "Aggressive play that follows exposure to games or cartoons containing violence is not distinguished from aggressive behavior intended to harm (Irwin & Gross, 1995; Silvern & Williamson, 1987). Aggressive thoughts, feelings, and behaviors may be presented as equivalent in importance and treated as valid surrogates for real-life violence, with the assumption that reducing these factors will reduce harm"* (p. 146).

- *"Use of violent media is not put into context with other known contributors to aggression or violence.... According to public health and juvenile justice research, the strongest childhood predictors of violence are involvement in crime, male gender, illegal substance use, physical aggressiveness, family poverty, and antisocial parents"* (p. 147). Another problem is that *"most children who are aggressive or engage in antisocial behavior do not grow up to be violent adolescents or adults"* (p. 147).

- *"Test conditions that are difficult to generalize to the real world."* Subjects may have only 10 minutes to play a game in an experiment. Young people commonly play games with others. (p. 147)

- *"Small, nonrandom, nonrepresentative samples"* (p. 147).

- Potentially "*moderating factors, such as age or developmental stage, are often not considered*" (p. 147).

- "*Study findings are combined in ways not appropriate for policy use*" (p. 147). Given the different populations, measures, and exposures, it is inadvisable to combine them in a single meta-analysis.

Olson speculates that violent video games may have indirect effects on more subtle forms of antisocial behavior, such as bullying. But this has not been studied. *"We might take a lesson from America's history of media hysteria.... As with the entertainment media of earlier generations, we may look back on some of today's games with nostalgia, and our grandchildren may wonder what the fuss was about"* (p. 149).

25. In his article on video games, Provenzo (1997, p. 109) writes, *"The research simply doesn't exist to tell us whether or not the games – particularly their increasingly realistic and interactive modes – have a long-term effect on children."*

26. Rhodes (2000) asks,

> *"Is there really a link between entertainment and violent behavior? The American Medical Association, the American Academy of Pediatrics, and the National Institute of Mental Health all say yes. They base their claims on social science research that has been sharply criticized and disputed within the social science profession, especially outside the United States. In fact, no direct, causal link between exposure to mock violence in the media and subsequent violent behavior has ever been demonstrated, and the few claims of modest correlation have been contradicted by other findings, sometimes in the same studies.... If we want to reduce (violence) even further, protecting children from real violence in their lives – not the pale shadow of mock violence -- is the place to begin" (Rhodes, 2000).*

27. Schechter (2005) in his history of violent entertainment notes,

> *"Nearly all the studies that purport to show a link between exposure to media violence and aggressive behavior are afflicted with significant problems, ranging from methodological flaws to bizarre assumptions about the way the human imagination processes and makes use of fantasy. To begin with, they tend to be conducted under highly artificial conditions that bear no resemblance to a child's actual day-to-day experience.... There is an enormous difference between real aggression that is meant to inflict harm on another person and the kind of rough-and-tumble horseplay that young males have gleefully engaged in from the inception of the species"* (pp. 151-152).

One *"charge commonly made against video games – that they are far more insidious than old-fashioned juvenile pastimes because they are more 'interactive' – holds little water. Nothing was more interactive than the 'violent' play of my own 1950s boyhood, when our targets were not animated pixels but live human beings who would shoot back at us with cap pistols, dart guns, ping-pong-ball rifles, and rubber-tipped arrows"* (Schechter, 2005, p. 156).

28. Southwell & Doyle (2004) write,

"When pundits--and some researchers--proclaim electronic games either altogether good or altogether bad for society, they often miss theoretical subtleties that if considered would allow us to see both the boon and the burden of the emerging technology and point to important future possibilities. Most important, these critics often fail to recognize that variability exists at different levels of analysis and in the interactions: between players, between games, between contexts, and so forth" (p. 391).

"Are there unique aspects of electronic game use that negatively affect school performance? ... As is often the case with media studies, the cause-effect link is tenuous. Are there certain aspects of games themselves, or of some categories of games, that can affect cognitive functioning? Consideration of this question yields some surprising answers: There is reason to believe that interaction with electronic games actually might offer some positive benefits' (p. 393).

"*What about violence? Several exhaustive reviews of available games literature reach somewhat different conclusions. Anderson & Dill (2000) and Anderson & Bushman (2001) highlighted a distinct role for electronic games in promoting violence. Anderson and Bushman's meta-analysis suggests that available experimental evidence supports the conclusion that violent video games encourage aggression. But the Federal Trade Commission (2000), Bensley & Van Eenwyk (2001), and others were more tentative in their conclusions, often arguing that the evidence is insufficient for either a yea or nay conclusion. Moreover, we should be mindful of the possibility that available literature is biased by the historical reticence of some journals to publish null findings' (p. 394).*

29. Unsworth and Ward (2001) conclude,

"The inconsistencies in the findings of a vast body of research and the rate of advancement in video game technology make it difficult to draw any firm conclusions about the relationship between exposure to video game violence and aggressive behavior."

Weak, null and inconsistent data

30. Since the 1980s many studies have failed to find statistically significant relationships between frequency of playing video games and emotional or behavioral problems (e.g., Colwell & Payne, 2000; Gibb, et al., 1983; Kestenbaum & Weinstein, 1985; McClure & Mears, 1986; Winkel, et al., 1987), or no significant relationship between the amount of time children spent playing video games and aggressive behavior (Funk, Hagan, et al., 2002; van Schie & Wiegman 1997).

31. Experiments that fail to find any effects of violent video games on aggressive behavior include Ballard & Lineberger (1999); Graybill, Strawniak, Hunter & O'Leary (1987); Kirsh (1998); Winkel, et al. (1987); and Williams & Skoric (2005).

32. Even research said to support a link between violent video games and aggressive behavior is not as convincing as sometimes portrayed. For example, Anderson (¶ 23) and Rich (¶34, 49) both refer to the study by Irwin & Gross (1995) as supporting the link between violent video games and aggression. In that research, boys played a violent or nonviolent video game for 20 minutes and were then observed during free play with another boy. Physical aggression was defined as hitting, shoving, pinching, pulling at clothes, kicking, pulling hair, and throwing or smashing objects. Verbal aggression included threats of physically aggressive acts. These were indeed greater after boys played a violent video game. However, it is not clear whether aggressive-play, in which boys pretend to kick and threaten, was distinguished from genuine threats and aggression. Nor did they examine the various aggressive acts separately, so we do not know whether there was any hitting, shoving, pinching, kicking, or hair pulling with intent to injure. Irwin & Gross (p. 347) write, "*Although specific forms of physical aggression were not measured, review of the video tapes suggested that many of these physically aggressive acts were direct imitations of the behavior modeled by the video game characters. Subjects often engaged in fantasy play, assuming the role of one of the video game characters and pretending to physically harm an evil villain or formidable opponent.*" About the increase in verbal aggression, they write (p. 348) "*apparently much of the verbal aggression toward the confederate during free-play was related to fantasy play.*" In other words, the boys were playing, not fighting.

33. The Anderson & Dill (2000) studies are also cited as evidence of the effects of violent video games (Anderson ¶ 29, Rich ¶34, 50). Anderson & Dill (2000) examined both the correlates of playing violent video games, and conducted an experiment on the effects of violent video games. In their correlational study, a significant relationship was found between self-reported aggression and exposure to violent video games. This does not mean that video games cause aggression. It may be that aggressive individuals are drawn to violent video games, or that some unknown factor is responsible for both aggressive behavior and attraction to violent video games.

34. In the experiment by Anderson & Dill, college students played a violent video game (*Wolfenstein 3D)* or a nonviolent game (*Myst*). Women and men played each assigned video game 3 times for 15 minutes per time. The researchers' measure of 'aggressive thoughts' was the time it took to recognize aggressive words (for example,

'murder') flashed on a computer screen. Aggressive thoughts were not measured directly in this experiment, only reaction time to words flashed on a screen.

35. The average reaction time to aggressive words was faster among those who had played the violent video game. Anderson & Dill interpret this to mean that *"the violent video game primed aggressive thoughts. This result suggests one potential way in which playing violent video games might increase aggressive behavior, by priming aggressive knowledge structures" (p. 786).* Calling the recognition of aggression-related words 'aggressive cognition' and aggressive 'knowledge structures' does not mean that there is any connection with aggressive thoughts, beliefs, intentions or behaviors.

36. Participants who had played *Wolfenstein 3D* delivered significantly longer noise blasts after lose trials than those who played the nonviolent game *Myst*. There was no effect on the intensity of noise blasts delivered to the 'opponent.' Yet Anderson & Dill conclude, *"Playing a violent video game increased the aggressiveness of participants after they had been provoked by their opponent's noise blast"* (p. 786). Anderson & Dill focus exclusively on the trivial finding that people who played the violent video game depressed a noise button longer than those who played *Myst*, and they ignore the fact that there was no difference in the intensity of noise delivered to the opponent.[4] This is hardly convincing evidence that violent video games cause aggressive behavior.

37. Do these results justify the need to *"be concerned about the prevalence of violent video games in modern society, especially given recent advances in the realism of video game violence"*? (p. 787). The Anderson & Dill studies do not address the realism of video games, or identification, or the effects of rewards, or attitudes toward conflict resolution. Do players really learn that aggression is the solution to conflict? This experiment demonstrates none of these things.

38. Experiments that measure hostility and a 'hostile attribution bias' after playing violent video games sometimes find no effects. Anderson & Ford (1986) did not find that university students who played a 'highly aggressive' video game were more hostile than a group that played a less aggressive game. Baldaro et al. (2004) failed to find an increase in hostility following play of a violent video game.

39. Scott (1995) measured the aggressiveness of university students with the Buss-Durkee Hostility Inventory and the Eysenck Personality Questionnaire. No significant differences in aggressiveness were found between students after playing a nonaggressive, a moderately or a highly aggressive video game. Scott concludes that

[4] In contrast, a study using a similar research design by Bartholow & Anderson (2002) found significant effects for intensity of noise blasts but not for duration. In both studies the researchers conclude that violent video games affected aggressive behavior, but they could just as easily have concluded the opposite, since in each study one of these two measures was significant, while in the other it was not.

there is a *"general lack of support for the commonly held view that playing aggressive computer games causes an individual to feel more aggressive."*

40. Other studies fail to find any significant relationship between playing violent video games and aggressive behavior or adjustment among adolescents (Colwell & Payne, 2000; Durkin & Barber, 2002).

41. Three studies find an inverse relationship between violent video games and aggressive behavior. Funk and her colleagues (1999) found no association between a preference for violent video games and any clinical problems. Boys who played video games low in violence had higher delinquency scores than boys who played more violent video games. A study in Japan found that a preference for aggressive video games was associated with lower aggression scores, *"and this raises questions for the causal hypothesis"* (Colwell & Kato 2003).

42. A meta-analysis by Sherry (2001) found an inverse relationship between the amount of time spent playing video games and aggressive behavior -- the more time spent playing violent video games, the less aggression. Sherry writes, *"The results suggest that playing even the most violent of games for extended times may not increase aggression.... Parents' intuitive reaction to limit playing time may actually be counterproductive, pulling the child from the game at a time when the largest aggressive effects are likely."* If allowed to continue playing, Sherry implies, the aggression would subside.

43. In a study by Funk, Buchman and others (2003), playing a violent versus a non-violent game did not affect aggression in a group of 5 to 12 year old boys and girls. Those children who played a violent video game did not differ in either aggression or empathy scores from children who played a nonviolent video game. Neither was long-term exposure to violent video games associated with aggressive responses to the vignettes.

44. The first published longitudinal study of violent video games is by Williams & Skoric (2005), who enlisted more than 200 people from 14 to 68 years old who had not previously played online multiplayer role-playing games. Some of them were randomly assigned to play a violent computer game for at least 5 hours a week for one month. Pre- and post-play measures included normative beliefs in aggression, and questions about aggressive social interactions (getting into a serious argument). Based on Anderson's General Aggression Model, the researchers predicted increases in aggressive beliefs and aggressive behavior following one month of play. *"Despite a robust exposure that averaged 56 hours over the month of the study, the results did not support the hypotheses. Simple correlations between hours played and the three dependent variables were non-significant... Game play – controlling for gender, age, and time one aggression scores – was not a significant predictor of aggressive cognitions. Compared to the control group, participants after the experiment were not statistically different in their*

normative beliefs on aggression than they were before playing the game. Similarly, game play was also not a predictor of aggressive behaviors" (p. 226).[5]

45. In an Australian experiment (Fleming & Rickwood 2001), boys and girls age 8 to 12 years played a violent or a nonviolent video game for 4 minutes. Measures of arousal, heart rate, and aggressive mood were assessed. According to the researchers, the results *"offer no support for the hypothesis that children will report more aggressive mood after playing violent video games. There is also no statistical evidence to support the hypothesis that this effect would be stronger for boys than for girls."* In fact, they found that *"mood was significantly more positive after playing the violent game than after the paper-and-pencil game."*

Comparisons of the effect of video games to other media

46. Research on television violence is sometimes applied to violent video games. Anderson writes (¶39) that "there are strong theoretical reasons to believe that violent video game exposure could have a stronger impact on the player than violent television or movie exposure:" active involvement, identification with violent characters, reinforcement of violent actions, and greater exposure to the medium. But he cites no evidence in support of this. However, in Sherry's (2001) meta-analysis, the effect of violent video games on aggression was smaller than that of televised violence.

47. As a unique medium, video games differ from television and film not only in their interactivity, but also in the nature of their stories, their open-endedness, and in their ability to satisfy different needs of their users. Holm Sorensen & Jessen (2000, pp. 120-121) write,

> *"[Interactivity], which is usually described as a problem in relation to violent computer games – the fact that the player himself must conduct violent deeds – actually makes children aware that their actions take place in a fictitious universe. For children, computer games are in fact 'games' with their own rules. From an early age, they are aware that these rules do not apply outside the realm of the game, with the exception that children can include elements and rules from the games in their play."*

48. Thus there are also compelling theoretical reasons to believe that video games may have less emotional impact on players because, in a video game, the player has control over the action and in many cases over the story line. This sense of control may mitigate any negative effects that video game content might have.

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[5] Anderson ¶30 claims that one month is not an appropriate period of time for a longitudinal study. However, Williams & Skoric studied the effects of more than 50 hours of play, compared with the average experiment where play is typically less than 30 minutes.

Control as a moderator of videogame effects

49. Video games begin, pause and end at the will of the player (with the exception of experiments in which people are compelled to play them). One of the attractions of video games is the control afforded to players (Grodal, 2000). Control buffers the reactivity associated with task performance under aversive conditions (Peters, Godaert, et al., 1998; Weinstein, Quigley & Mordkoff, 2002).

What's missing from experiments on video games?

50. Criticisms of the methods used in laboratory experiments of aggression have been made many times (for example, Freedman, 2002; Gauntlett, 2001; Ritter & Eslea, 2005; Tedeschi & Quigley, 1996). For example, the cover stories given to participants about the nature of the experiment and exposing them to violent media could lead participants to give more shock or noise blasts for prosocial reasons (to help the experimenter, for example), and not in order to cause harm. Ritter & Eslea (2005) suggest that future laboratory aggression researchers should consider: The perceptions and motivations of the aggressor; the apparent distance between the aggressor and the target; the availability of non-aggressive response options; the problems of demand characteristics and permissive cues.

Play

51. Play is a voluntary, self-directed activity (Garvey 1991), an experience that probably cannot be duplicated in a laboratory experiment. In video game research, the duration of play is too short for anything like the play experience to be replicated. Being required to play a violent video game on demand for ten or twenty minutes is not 'playing.' Experimental research does not recognize the fact that people who play violent video games freely engage in play, and are always free to pause or stop. They enter an imaginary world with a playful frame of mind, something entirely missing from laboratory studies of video games. One of the pleasures of play is this very suspension of reality. Laboratory experiments cannot tell us what the effects of playing video games are, because there is no sense in which participants in these experiments are playing video games.

Intention to harm

52. Researchers define aggression as the intention to harm another (Anderson ¶50), but we do not know the intentions of subjects in laboratory experiments (because no one asks them). In observational studies of children's play, it is unclear whether the verbal or physical aggression observed has an injurious intent or whether it is merely play-fighting (Irwin & Gross, 1995).

The social character of video games

53. People play video and computer games in groups, and they talk about games with their friends. Many boys play violent video games because it is expected of them by their peers, just as many adult men follow sports because it is socially useful to

do so. In *Video Kids*, Provenzo (1991, p. 58) notes, *"Pool, pinball, or video games allow a means by which to establish hierarchies of skill and ability, and ultimately leadership."* But participants in experiments are treated as individuals divorced from their social world.

54. Nearly every media violence researcher says violence is multi-determined, but no attempt is made to put media violence in the context of other risk factors, such as living in a violent household, availability of firearms, or cruelty to animals. How important are media in relation to, or in combination with, these other factors?

Might video games help children cope with anger?

55. Olson (2004) noted the need for research on potential benefits of violent games for some children and adults. For everyone who may be influenced negatively by violent video games, there may be an equal number of people who use video games to distract themselves from anger, in the same way that an active sport, or counting to 10, can help a person cope with anger or other unpleasant emotions (van Salisch & Bretz, 2003).

56. Jansz (2005) writes that violent video games provide *"a gratifying context for the experience of emotions. The fact that gamers are largely in control of the game implies that they can voluntarily select the emotional situations they confront. This freedom is attractive for adolescents who are in the midst of constructing an identity. For them, the violent game is a safe, private laboratory where they can experience different emotions, including those that are controversial in ordinary life."*

Additional comments on declarations submitted in this case

Anderson, Murray, and Rich declarations

57. The generalizations about the effects of media violence in the statements of Craig A. Anderson (¶ 7, 9, 14, 16, 18, 19, 23, 24), John P. Murray (¶ 8, 9, 16, 17) and Michael O. Rich (¶ 23) are without nuance and demonstrate little understanding of who uses media under what conditions and for what purposes. In presenting a 'scientific' case for the effects of media violence, they overlook inconsistencies in the data, weaknesses in their methods, and alternative explanations for their results.

58. The generalizations in the declarations of Drs. Anderson, Murray and Rich suggest that anyone exposed to media violence is negatively affected, since they fail to specify or identify differences between individuals that might result in different effects (Anderson ¶15). If this is the case, why aren't researchers themselves affected by their long-term cumulative exposure to media violence? I believe they can tolerate media violence because their exposure serves a higher purpose, namely, the advancement of science. Young people who play violent videogames (may) also have a higher purpose – to learn about a game because their peers talk about it, to become expert in a peer-valued activity, to experience excitement, to distract themselves from pain and suffering. In my professional opinion, people use violent entertainment for their own purposes, and these vary from person to person.

Additional comments on Anderson declaration

59. Experiments that rely on college students as participants may be unable to tell us much about the effects of video games on those who typically play them, or their effects on youth. Experiments with college students may be uninformative about the effects of video games on young people under the age of 18. The heavy reliance on college students as subjects in experiments is regarded by some psychologists as a weakness of psychological research that limits its generalizability (Jaffe, 2005).

60. Anderson implies that there is a dose-response relationship between exposure to violent video games and their aggressive effects, that repeated exposure should result in increased likelihood of aggressive behavior (¶14, 43). However, in the Sherry (2001) meta-analysis, playing time emerged as a negative predictor of aggression (r = -.19). That is, the more one played violent video games, the weaker the relation to aggressive behavior. In studies by Ballard & Lineberger (1999), Scott (1995), and Winkel et al. (1987), the level of aggressive content in video games bore no relation to subjects' aggressive behavior.

61. In describing the magnitude of media violence effects, Anderson (¶38) and Rich (¶25, 34) compare it to health hazards like smoking and cancer[6]. But more relevant would be the comparison of exposure to media violence and other factors known to affect youth violence – harsh and inconsistent parenting, peer rejection, antisocial peers, the availability of firearms (Ferguson, 2002; Leary et al. 2003; Pettit 2004).

62. Anderson's response to criticisms of existing research on violent video games (¶46-50) does not address key criticisms. What Anderson refers to as the better studies in terms of method (¶ 37) still contain significant flaws. People cannot play on demand. Using a video game not of your choosing, for 10 or 20 minutes, in an unfamiliar environment has little to do with playing video games. Whatever it is that experiments

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[6] A critique of the smoking-cancer : media violence analogy is presented by Ferguson (2002, p. 446): "*Comparing media violence research with that on smoking is a powerful polemic.... However, it is not clear that research on media violence has reached the no-reasonable-doubt point that was reached by cigarette research. Cigarette smoking was demonstrated to be a necessary and sufficient cause of lung cancer. But is media violence a necessary and sufficient cause of violent behavior? ... 1. Humans are by nature a violent species and may demand violence in their entertainment. Violent media, then, are not a necessary precursor to violent behavior. 2. Unlike lung cancer, which is rare outside of individuals not exposed to cigarette smoke or other inhaled carcinogens, violent behavior is common in the absence of violent media, whereas many who are exposed to violent media demonstrate no violent behavior. Violent media, then, are not sufficient to cause violent behavior. 3. The effect sizes of media violence research are small. They account for only a small fraction of the variance in violent behavior.*" Furthermore, medical research tends to use a double-blind procedure, where the researchers collecting the data are unaware of the study's hypotheses.

are studying it is not 'playing video games.' Some participants in experiments may resent being required to play violent video games.

63. Anderson has stated (¶7) that media violence research literature is one of the "most well understood (by true experts) in all of social and behavioral science." I presume a 'true expert' (¶ 7) is a psychologist who agrees that the research methods used to date are sufficient to determine the effects of violent entertainment.

Rich declaration

64. Rich states that there are more than 2,000 scholarly papers reporting research on violent media, and at least 800 publications in peer reviewed scientific journals (¶ 22), and that meta-analyses have included data from several hundred papers (¶ 24). These are fanciful numbers. Freedman (2002) and Paik & Comstock (1994) could identify fewer than 300 empirical studies of media violence, and meta-analyses of video game research have included around 40 studies.

65. Rich refers to the American Academy of Pediatrics policy statements on media violence. An editorial in the British medical journal *The Lancet* (1999, p. 525) commented:

> *"It is inaccurate to imply that the published work strongly indicates a causal link between virtual and actual violence. Experts are divided on the subject.... The American Academy of Pediatrics' concerns seem woefully misplaced.... While future research may prove the danger of the media to children, we know already the harm that poverty, abuse, and weapons can have. Forced to choose between facing a teenager holding a firearm or his classmate clutching a video of a Quentin Tarantino movie we would all opt for the latter."*

66. Rich (¶ 24) claims that the strongest effects of violent video games were observed in the youngest children, and he cites Griffiths (1999) in support. Here is what Griffiths said of this finding: *"The majority of studies on very young children tend to show that children become more aggressive after playing or watching a violent video game, but these were all based on the observation of free play."* That is, researchers may be observing children engaged in rough-and-tumble play, and not in aggressive behavior.

Concerning declarations of Kronenberger, Murray, Rich, and Kalnin on brain studies

67. I have not been trained in the techniques and theories involved in brain scans and fMRI, and am not competent to comment on the technical aspects of these studies or what implications they may have for understanding youth violence. However, in the course of reading general psychology publications, I have read what others have written about the limits and cautions required in interpreting this research (Cacioppo, 2003; Uttal 2001; Wargo 2005). According to psychologist Carole Wade (in Wargo 2005), neuroimaging research, although undeniably promising, still has a number of

methodological and conceptual problems to overcome. Sample sizes in studies are often quite low, numerous confounds can affect results, and images are often manipulated in arbitrary ways to accentuate or deemphasize differences between brains. "*Small contrasts can be made to look dramatic, larger ones to look trivial*," Wade said. There is little general agreement as to how to interpret results.

Conclusions

68. Existing research on violent video games is inconsistent, ambiguous, and insufficient to allow one to draw conclusions concerning the effects of violent video games on the aggressive behavior of young people. Correlational studies cannot guide us in reaching conclusions about the causal effects of violent video games, and experiments are unable to capture what is most relevant to the discussion, namely, play, the social nature of video games, and aggressive behavior. Longitudinal studies, although few, have already produced contradictory results (Anderson, unpublished; Williams & Skoric, 2005).

69. I remain unconvinced that the evidence to date points to the conclusion that violent video games cause aggressive behavior, and doubt whether the research tools available to social psychologists are capable of providing an answer. The continued controversy over the effects of media violence in the scientific community attests to the fact that the data are not conclusive. In my professional opinion the evidence is insufficient to conclude that minors who play violent video games are more likely to exhibit violent behavior or experience feelings of aggression.

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I declare under penalty of perjury that the foregoing is true and correct.

EXECUTED on October 15, 2005.

Jeffrey H. Goldstein

EXHIBIT A

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Biography

Jeffrey Goldstein was professor of psychology at Temple University (Philadelphia) and since 1992 has been with the Department of Social and Organizational Psychology at the University of Utrecht, The Netherlands. He is author or editor of 16 books including *The Psychology of Humor; Sports, Games, and Play; Aggression and Crimes of Violence* (Oxford University Press), which won the best book award from the International Society for Research on Aggression, 1988), *Toys, Play and Child Development* (Cambridge University Press), *Why We Watch: The Attractions of Violent Entertainment* (which he edited with support from the Harry Frank Guggenheim Foundation; Oxford University Press), and *Toys, Games and Media* (Lawrence Erlbaum Assoc.). He is co-editor of *The Handbook of Computer Game Studies* (2005, MIT Press).

Goldstein is a fellow of both the American Psychological Association and the American Psychological Society. As a consultant on children and media, Prof. Goldstein summarizes scholarly research for clients around the world. He is chairman of the National Toy Council (London) and serves on the Netherlands Institute for the Classification of Audiovisual Media (www.kijkwijzer.nl), and PEGI, the European video games rating board (www.pegi.info). He sits on the Editorial Board of *Humor: International Journal of Humor Research* and the *International Journal of Early Childhood Education*.

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Curriculum Vitae
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B.A.	**University of Connecticut (Sociology)**	**1964**
M.S.	**Boston University (Communication Research)**	**1966**
Ph.D.	**Ohio State University (Psychology)**	**1969**

Professional Activities

Editorial Board: *Aggressive Behavior* (former Book Review Editor)
Current Psychology (former Editor, with Noel Sheehy)
Humor – International Journal of Humor Research
International Journal of Early Childhood Education

Academic Advisory Board. Entertainment Software Rating Board. New York (1994-2004)
Complaints Committee. Netherlands Institute for the Classification of Audiovisual Media (NICAM)
Advisory Board. Pan-European Game Information (Brussels)
Docent. University of Utrecht (1991-)
Chairman. National Toy Council (London)
Fellow, American Psychological Association (Division 8)
Charter Fellow, American Psychological Society
Executive Board. International Toy Research Association
Visiting Professor. University of London Institute of Education
Professor of Psychology. Temple University. Philadelphia, PA (1969-1991)
BRIO Award. For contributions to the study of toys and play. Osby, Sweden. 2001
Co-organizer, 1st International Digital Games Research conference. Utrecht. Nov. 2003
http://www.gamesconference.org/2003/index.php?Archive
Co-organizer. 4th International Toy Research Association congress. Alicante, Spain. July 2005

Selected Publications

Books

(2005). ***Handbook of computer game studies.*** **Cambridge, MA: MIT Press. (with Joost Raessens)**

(2004). ***Toys, games and media.*** **With David Buckingham & Gilles Brougere. Lawrence Erlbaum Associates.**

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(1994). Sex differences in toy preference and video game play. In J. Goldstein (Ed.), Toys, Play, and Child Development. New York: Cambridge University Press.

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(1983). Olympic Games participation and warfare. In J. H. Goldstein (Ed.), Sports Violence. NY: Springer-Verlag. (pages 183-193). (with R. Keefer & D. Kasiarz).

(1982). A laugh a day: Can mirth keep disease at bay? The Sciences, 22 (Aug/Sept), 21-25.

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(1977). The role of "irrelevant" derogation in vicarious aggression catharsis: A field experiment. Journal of Experimental Social Psychology, 13, 239-252. (with H. L. Fromkin & T. C. Brock).

(1976). Theoretical notes on humor. Journal of Communication, 26 (3), 104-112.

(1975). Punitiveness in response to films varying in content: A cross-national field study of aggression. European Journal of Social Psychology, 5, 1490-165. (with R. Rosnow, T. Raday, I. Silverman, & G. D. Gaskell).

(1975). Escalation of aggression. Journal of Personality and Social Psychology, 31, 162-170.

(with R. W. Davis & D. Herman).

(1975). Test of an information-processing model of humor: Physiological response changes during problem- and riddle-solving. Journal of General Psychology, 92, 59-68. (with J. Harman, P. E. McGhee & R. Karasik).

(1971). Effects of observing athletic contests on hostility. Sociometry, 34, 83-90. (with R. L. Arms).

Plus ±50 others

SELECTED PAPERS, SEMINARS, COLLOQUIA

(2005). Applied play research. International Toy Research Association meeting. Alicante, Spain. July

(2005). Humor as a way of seeing and a way of being. Cartoon Network. Museum of Television & Radio. New York, NY. May.

(2004). The value of play. Seminar. International Toy Fair. Nuremberg, Germany. February.

(2003). Computer games in the workplace. S. Bogers, K. Sijbrandij, M. Wiegers & J. Goldstein. Digital Games Research Association conference, Utrecht. November. http://www.gamesconference.org/2003/index.php?Abstracts/Bogers%2C+et+al.

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(2002). Violent video games and aggressive behavior. Toys, games and media congress. University of London. August.

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(2000). Research perspectives on electronic games. Massachusetts Institute of Technology. Cambridge, MA. Feb.

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(1998). The attractions of violent entertainment. International Society of Research on Aggression. New York

(1997). International toy research. Smithsonian Institution conference on toys. Emory University, Atlanta

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(1996). La valeur des jouets et du jeu: Epanouissement de l'enfant. [The value of toys and play.] Association des Jouets de Marque. Paris

(1996). Children and television violence: The V-chip. Seminar, 'Television et enfants.' J. Mojto, president. MIPCOM. Cannes, France

(1996). Violent entertainment: Uses and gratifications. British Board of Film Classification. London

(1995). Strengthening intergenerational ties through play. Intergenerational play seminar. Beijing, China

± 60 others