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### The Law and Science of Video Game Violence: What Was Lost in Translation?, 31 Cardozo Arts & Ent. L.J. 297 (2013)

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# THE LAW AND SCIENCE OF VIDEO GAME VIOLENCE: WHAT WAS LOST IN TRANSLATION?♦

WILLIAM K. FORD\*

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## INTRODUCTION

“[A]s a general rule,” writes Pulitzer Prize-winning journalist Edward Humes, “courts don’t do science very well.”<sup>1</sup> Susan Haack, a professor of law and philosophy, elaborates on why this may be true, offering several reasons for “deep tensions” between science and law.<sup>2</sup> As explained below, the reasons offered by Haack may be less of a concern where the dispute involves litigation against the government on significant questions of public policy.<sup>3</sup> Recent decisions assessing the constitutionality of laws restricting minors’ access to violent video

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\* Assistant Professor of Law, The John Marshall Law School. Thanks to Bill Carroll, Shannon Ford, Stuart Ford, Raizel Liebler, Beth Mertz, Mary Nagel, Kimberly Regan, Dan Roddick, and Andrew Wrona for reading drafts and offering suggestions on this Article. Some of the discussion in this Article appeared in earlier forms in blog posts on the Empirical Legal Studies Blog, at [www.elsblog.org](http://www.elsblog.org). © 2013 William K. Ford.

<sup>1</sup> EDWARD HUMES, *MONKEY GIRL: EVOLUTION, EDUCATION, RELIGION, AND THE BATTLE FOR AMERICA’S SOUL* 257 (2007).

<sup>2</sup> Susan Haack, *Irreconcilable Differences? The Troubled Marriage of Science and Law*, 72 *LAW & CONTEMP. PROBS.* 1, 2 (2009) [hereinafter Haack (2009)].

<sup>3</sup> Humes thinks the judge in *Kitzmiller v. Dover Area School District*, 400 F. Supp. 2d 707 (M.D. Pa. 2005), “succeed[ed] brilliantly in the arenas of science and law.” HUMES, *supra* note 1, at 340.

games therefore offer an opportunity to examine how well the courts handled scientific evidence in a situation lacking some of the usual tensions between science and law. According to some of the leading researchers on media violence, “[T]he scientific debate about whether exposure to media violence causes increases in aggressive behavior is over and should have been over 30 years ago.”<sup>4</sup> They claim that hundreds of studies relying on different methodologies and different samples support this claim.<sup>5</sup> In July 2000, the American Academy of Pediatrics and five other medical groups, including the American Medical Association, issued a *Joint Statement on the Impact of Entertainment Violence on Children*, which said that “well over 1000 studies . . . point overwhelmingly to a causal connection between media violence and aggressive behavior in some children.”<sup>6</sup> The debate about this conclusion, says Professor Craig Anderson, one of the leading media violence researchers, should have been over by 1975.<sup>7</sup> The American Academy of Pediatrics agrees.<sup>8</sup> While there is less research on video game violence specifically, these organizations and researchers claim that violent video games pose similar or even worse problems than other forms of violent media.<sup>9</sup> Yet courts at all levels, including the United States Supreme Court in *Brown v. Entertainment Merchants Ass’n*,<sup>10</sup> found the research on video game violence inadequate to justify laws restricting minors’ access to violent video games. Were the courts not understanding the science? Were they putting too much weight on

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4 CRAIG A. ANDERSON, DOUGLAS A. GENTILE & KATHERINE E. BUCKLEY, *VIOLENT VIDEO GAME EFFECTS ON CHILDREN AND ADOLESCENTS* 4 (2007) (citations omitted).

5 See Douglas A. Gentile, Muniba Saleem & Craig A. Anderson, *Public Policy and the Effects of Media Violence on Children*, 1 SOC. ISSUES & POL’Y REV. 15, 44 (2007). See also W. JAMES POTTER, *ON MEDIA VIOLENCE* 42 (1999) [hereinafter POTTER (1999)] (“After more than five decades of research on the effects of exposure to media violence, we can be certain that there are both immediate and long-term effects.”).

6 Joint Statement on the Impact of Entertainment Violence on Children, Am. Acad. of Pediatrics, Am. Med. Ass’n, Am. Acad. of Child & Adolescent Psychiatry, Am. Psychological Ass’n, Am. Acad. of Family Physicians & Am. Psychiatric Ass’n (July 26, 2000), <http://www.aap.org/advocacy/releases/jstmtevc.htm> [hereinafter *Joint Statement*].

7 See Craig A. Anderson, *An Update on the Effects of Playing Violent Video Games*, 27 J. ADOLESCENCE 113, 114 (2004) [hereinafter Anderson (2004)] (“Basically, the scientific debate over whether media violence has an effect is over, and should have been over by 1975.”).

8 Am. Acad. of Pediatrics, *Policy Statement—Media Violence*, 124 PEDIATRICS 1495, 1496 (2009) (“The debate should be over.”).

9 See *id.* at 1498 (“Studies of these rapidly growing and ever-more-sophisticated types of media have indicated that the effects of child-initiated virtual violence may be even more profound than those of passive media such as television.”); *Joint Statement*, *supra* note 6 (“Although less research has been done on the impact of violent interactive entertainment (video games and other interactive media) on young people, preliminary studies indicate that the negative impact may be significantly more severe than that wrought by television, movies, or music.”); Gentile, Saleem & Anderson, *supra* note 5, at 38.

10 *Brown v. Entm’t Merchs. Ass’n*, 131 S. Ct. 2729 (2011).

the views of “a handful of vocal critics” of the science?<sup>11</sup>

In part, Douglas Gentile, Muniba Saleem, and Craig Anderson think there was a problem of translation, a problem of communication (or miscommunication) between media violence researchers and the courts.<sup>12</sup> The goal of translation in this context should be to generate useful information for the courts, which would mean the information is understandable, accurate, and as complete as necessary for the courts to render a sensible decision. This Article is a case study of translation in the courts, one that seeks to identify ways in which lawyers and judges—there were no juries in these cases—may have miscommunicated or misunderstood the science. On the whole, the courts did a mediocre job of assessing the scientific evidence. An improved understanding of the science by the judges would not necessarily have changed the outcomes in these cases, however. Personally, I agree with the outcomes. The First Amendment’s heavy thumb on the scale led to a consistent and appropriate result: a string of defeats for the government. But in other cases, similar failures of translation might lead to the wrong outcome. The video game violence cases reinforce the conclusion that there are significant challenges to good judicial decision-making involving scientific evidence, but the higher quality analysis by the one judge who presided over a trial suggests that courts may better understand scientific evidence when they rely less on lawyers to translate it.

### I. SCIENCE IN COURT

There are multiple reasons to worry about serious tensions between science and law. Some of the reasons are obvious. Lawyers are not concerned with open-minded inquiry or with following the evidence wherever it may lead. Lawyers are committed to a theory of the case best suited to achieve a particular outcome.<sup>13</sup> By contrast, “the core business of science is inquiry.”<sup>14</sup> Tendentious arguments undermine the scientific enterprise, but they are part and parcel of litigation. A lawyer’s goal is to persuade the judge and (occasionally)

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<sup>11</sup> Gentile, Saleem & Anderson, *supra* note 5, at 32. For criticism of the literature on video game violence, see, for example, JONATHAN L. FREEDMAN, *MEDIA VIOLENCE AND ITS EFFECT ON AGGRESSION* (2002), and JIB FOWLES, *THE CASE FOR TELEVISION VIOLENCE* (1999).

<sup>12</sup> See Gentile, Saleem & Anderson, *supra* note 5, at 40–43 (“Additional Translation Issues”).

<sup>13</sup> See, e.g., HUMES, *supra* note 1, at 257.

<sup>14</sup> Haack (2009), *supra* note 2, at 12. See also JOSEPH SANDERS, *BENEDECTIN ON TRIAL* 211 (1998) (“[M]arginal science is not the primary source of jury difficulties with complex scientific arguments. The heart of that problem lies not in the complexity of science but rather in the structures and processes of adversarial adjudication that systematically disadvantage the cultural values of science.”).

the jury,<sup>15</sup> not to inaugurate a long-term research agenda of discovery or puzzle-solving. While I assume some scientists operate with an agenda in tension with the goals of open-minded inquiry, lawyers are professionally obliged to have such an agenda.

Another obvious source of tension is that lawyers and judges are not trained to analyze and evaluate scientific research.<sup>16</sup> The oral argument before the Seventh Circuit in *Annex Books, Inc. v. City of Indianapolis* illustrates the problem.<sup>17</sup> This case was not about video game violence, but the constitutionality of an Indianapolis ordinance regulating “adult entertainment businesses” for the purpose of reducing crime and other negative effects supposedly caused by these businesses.<sup>18</sup> The ordinance, in part, regulated the hours of adult businesses, including those selling books, magazines, and films.<sup>19</sup> Four adult businesses challenged the ordinance.<sup>20</sup> As the ordinance regulated the sale of books and other expressive works, Indianapolis needed evidence—not just “lawyers’ talk”—that these businesses contributed to crime.<sup>21</sup> In response to the city’s evidence, the plaintiffs submitted their own study by Professor Daniel Linz of U.C. Santa Barbara to show that their businesses did not contribute to crime. During the oral argument, the following exchange about Professor Linz’s “hotspot” analysis methodology occurred between Judge Frank Easterbrook and the attorney for the adult businesses:

EASTERBROOK: What do you mean by a “hotspot” analysis?

ATTORNEY: Well, a hotspot analysis, your honor, is looking at crime within a 200 foot [sic], a 500 foot, and a 1,000 foot –

EASTERBROOK: No, that tells you how far he’s looking, using the available data.

ATTORNEY: Well, the hot–

EASTERBROOK: What kind of analysis is it? You know, I looked for the standard statistical tools, like multivariate regression. They’re not there. In fact, in the study that’s in the record, none of the tools is explained. He announces his conclusion. He doesn’t

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<sup>15</sup> On the occasionality of jury trials, see generally Marc Galanter, *The Vanishing Trial: An Examination of Trials and Related Matters in Federal and State Courts*, 1 J. EMPIRICAL LEGAL STUD. 459 (2004).

<sup>16</sup> See Haack (2009), *supra* note 2, at 12.

<sup>17</sup> Oral Argument, *Annex Books, Inc. v. City of Indianapolis*, No. 05-1926 (7th Cir. Sept. 8, 2005).

<sup>18</sup> See *Annex Books, Inc. v. City of Indianapolis*, 581 F.3d 460, 461–62 (7th Cir. 2009).

<sup>19</sup> See *id.* at 461.

<sup>20</sup> See *id.*

<sup>21</sup> *Id.* at 463.

explain how he reached it. There are a few circles drawn around bookstores, but circles drawn around bookstores are a considerable distance short from good statistical analysis.

ATTORNEY: The notion that the adult bookstores are associated with adverse secondary effects are –

EASTERBROOK: No, are you gonna answer my question, which is, what did he do? What statistical tools did he use?

ATTORNEY: Dr. Linz looked at the addresses where the bookstores were located –

EASTERBROOK: Yes, but *how*? Did he use a particular statistical tool? Did he use a logit analysis? Is this a probit analysis? I can't for the life of me tell what he did.

ATTORNEY: If it's, if it's not in the report, your honor, then –

EASTERBROOK: It's not.

ATTORNEY: Okay, well, then I can't tell you precisely what he did.

EASTERBROOK: For all I know, he put on a big turban, and he went *mmmm, mmmm*, there it is.

ATTORNEY: No, he didn't your honor, but he looked at the police data that the city provided over that five year period of time. The hotspot analysis is also explained in the city's expert's report by looking at the crime surrounding the—the number of actual crime events surrounding the particular addresses.<sup>22</sup>

This exchange conflated two different analyses conducted by Professor Linz. Linz conducted what he described, first, as a “hotspot” analysis and, second, as a “before-after” analysis.<sup>23</sup> Judge Easterbrook asked about Linz's hotspot analysis, which compared crime rates at several adult businesses to other businesses in the same area over a five-year period.<sup>24</sup> Linz presented his results not with circles, but with five tables. Each table showed the total number of crimes for the entire time period associated with the addresses of one or two adult businesses and the addresses of several nearby businesses.<sup>25</sup> The purpose was to see

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<sup>22</sup> Oral Argument at 3:42, *Annex Books*, No. 05-1926.

<sup>23</sup> See Separate Appendix for Appellants at 125, 129, *Annex Books, Inc. v. City of Indianapolis*, No. 05-1926 (7th Cir. May 19, 2005).

<sup>24</sup> *Id.* at 132–34.

<sup>25</sup> See *id.* at 145–47. The report should have been clearer about how many adult businesses were included in the analysis. Table 1 on page 143 is supposed to list the adult businesses, but the names are missing. Consulting Google Street View confirmed that the second of the five tables in the hotspot analysis actually includes two separate adult businesses in the same table. The other four tables appear to include one adult business each. (All five of these tables are

whether the adult businesses were a significant source of crime within a neighborhood as compared to other businesses, that is, whether the adult businesses were “hotspots” of crime.

Separately, Linz conducted a before-after analysis of crime rates within 250, 500, and 1000 feet of the locations of two adult businesses and several control areas during the calendar year before and the calendar year after the businesses opened (but excluding the year in between, the actual year the businesses opened).<sup>26</sup> The purpose of this analysis was to determine whether crime increased after the businesses opened.<sup>27</sup> While his answer could not settle the matter, Linz argued that it would still provide evidence for or against the claim that the adult businesses *caused* crime.<sup>28</sup> As part of this before-after analysis, Linz included two figures with circles drawn around various locations to illustrate the geographic areas of interest,<sup>29</sup> the “circles drawn around bookstores” referenced by Easterbrook.

Both the attorney and Judge Easterbrook mixed up elements of these two analyses. The attorney’s initial answer to Easterbrook’s question about the hotspot analysis was instead related to the before-after analysis, as indicated by his reference to the three different distances. Like the attorney, Judge Easterbrook also appeared to confuse the different analyses when he referenced the circles in his comment on the hotspot analysis. At the end of the excerpt above, the attorney apparently *was* describing the hotspot analysis for which Linz used five years’ worth of data, unlike the two years of data he used for the before-after analysis.<sup>30</sup>

This confusion was not due to Linz’s study. While Easterbrook described Linz’s methodology as utterly mysterious during the oral argument, his written opinion for the Seventh Circuit (issued four years later) was not so critical. He fairly noted some limitations of Linz’s study, but he also said Linz’s “data and methods were disclosed” and that Linz’s analysis followed an approach accepted by the Supreme Court in a previous case.<sup>31</sup> At the oral argument, however, the attorney

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collectively defined as Table 4 in the report.)

<sup>26</sup> *See id.* at 134–37. *See Annex Books*, 581 F.3d at 464–65 (“[T]he City observed that Linz compared differences between 2001 and 2003, ignoring 2002, which (apparently) was a peak year for arrests in Annex Books. Yet the City did not apply Linz’s methods to the time series 2001, 2002, 2003 to see whether the omission mattered; instead it just asserted that the choice of years automatically invalidated the study, which is not a sound conclusion.”).

<sup>27</sup> *See* Separate Appendix for Appellants at 134, *Annex Books, Inc.*, No. 05-1926.

<sup>28</sup> *See id.* (“If we do not detect an effect in the months following an opening doubt is cast on the City’s theory that adult businesses or the nature of their entertainment is responsible for crime events in the local vicinity.”).

<sup>29</sup> *See id.* at 140–42.

<sup>30</sup> *See id.* at 130.

<sup>31</sup> *Annex Books*, 581 F.3d at 464–65 (7th Cir. 2009). *See City of Los Angeles v. Alameda Books*,

for the adult businesses was unable to clear up the confusion and also unable to address basic methodological questions about the evidence he offered to the court. Judge Easterbrook eventually cleared up the confusion on his own, but lawyers cannot count on judges to do this.

Because attorneys and judges often lack the training to deal with science, Edward Humes suggests they may try to “avoid or deemphasize science wherever possible.”<sup>32</sup> Humes may overstate lawyers’ aversion to science. Many scientific questions and conclusions can be stated in a manner accessible to laypersons. It is the research *methodology* used to answer questions and form conclusions that is more likely to be complex and inaccessible. For this reason, the preferred approach for dealing with scientific evidence may be to leave the methodological issues in a “black box,” so to speak.<sup>33</sup> Hence, it is more likely that attorneys and judges will avoid or deemphasize the methodology of science rather than science generally. The attorney in *Annex Books* may have been unprepared for detailed methodological questions because such questions were unexpected, but the lack of training also makes these types of questions difficult for lawyers to address even if they are expected.

A lack of training can cause problems in another way. Law professors David Caudill and Lewis LaRue argue that some judges and attorneys have an idealized view of science and therefore expect too much from it.<sup>34</sup> Two different problems can result. One is that some judges may view the limitations of scientific research as failings. Good science might be rejected because it is not perfect science. Some judges are *too* critical. The opposite problem, though one also caused by idealizing science, is that some judges may accept bad science because they are too trusting of scientific claims. These judges are not critical enough. Rule 702 of the Federal Rules of Evidence, as interpreted in *Daubert*, calls for judges to play a gatekeeping role to ensure that scientific evidence is relevant and reliable before it is admitted into evidence (where reliability is actually tied to scientific validity).<sup>35</sup> Playing this role well in determining what evidence is admissible requires avoiding both extremes—being neither too critical nor too

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Inc., 535 U.S. 425, 435-38 (2002) (discussing a study relied upon by the City of Los Angeles “to demonstrate a link between [certain] adult businesses and harmful secondary effects”).

<sup>32</sup> HUMES, *supra* note 1, at 257.

<sup>33</sup> *But see* Zenith Elecs. Corp. v. WH-TV Broad. Corp., 395 F.3d 416, 419 (7th Cir. 2005) (“An expert who supplies nothing but a bottom line supplies nothing of value to the judicial process.”) (quoting Mid-State Fertilizer Co. v. Exch. Nat’l Bank, 877 F.2d 1333, 1339 (7th Cir. 1989)).

<sup>34</sup> *See generally* DAVID S. CAUDILL & LEWIS H. LARUE, NO MAGIC WAND (2006).

<sup>35</sup> *See* *Daubert v. Merrell Dow Pharms.*, 509 U.S. 579, 590 n.9 (“In a case involving scientific evidence, *evidentiary reliability* will be based upon *scientific validity*.”). *See also* Susan Haack, *What’s Wrong with Litigation-Driven Science?*, 38 SETON HALL L. REV. 1053, 1070-77 (2008) (discussing the meaning of “reliability” in *Daubert*).



trusting. The same is true in contexts where judges must weigh the evidence. Where judges are responsible for doing so, such as on a motion for a preliminary injunction or when presiding over a bench trial, they need to become more critical than when they are deciding issues of admissibility, but even then, the extremes should be avoided. In the video game violence cases, the courts tended towards being too critical.

At least some judges are candid about their lack of training in dealing with scientific evidence.<sup>36</sup> During the expert testimony of Professor Craig Anderson in *Entertainment Software Ass'n v. Blagojevich*,<sup>37</sup> Judge Matthew Kennelly of the United States District Court for the Northern District of Illinois was moved to comment, "I am going to suggest that at new judge school they put in a statistics course."<sup>38</sup> Both judges and lawyers generally could benefit from such a course. Both could benefit from an introductory course on research methodology too, but we should not expect to turn lawyers into scientists, social or otherwise. Judges need to be "critical consumers" of science, not producers of science.<sup>39</sup> Professor Elizabeth Mertz worries that with the increased interest in empiricism in the legal academy, law schools may drop standard social science courses into the curriculum without carefully thinking about how these courses fit with the goals of legal (as opposed to a social science) training.<sup>40</sup> Providing a standard statistics course for law students could produce lawyers with "only partially digested and rudimentary statistical skills," without much benefit to anyone.<sup>41</sup>

Changes in legal training might improve the use of science in the courts, perhaps by focusing on how to better work with experts (not on how to replace them); but like the adversarial process itself, some sources of tension between science and law are beyond the reach of law

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<sup>36</sup> A survey of 400 state trial court judges found them roughly split on the question of whether they were adequately prepared to deal with scientific evidence with 52% describing themselves as prepared and 48% describing themselves as not prepared. See Sophia I. Gatowski et al., *Asking the Gatekeepers: A National Survey of Judges on Judging Expert Evidence in a Post-Daubert World*, 25 LAW & HUM. BEHAV. 433, 442 (2001). Examples of federal judges acknowledging the limitations of judges in dealing with scientific evidence include Justice Stephen Breyer and Judge David Bazelon of the United States Court of Appeals for the D.C. Circuit. See Stephen Breyer, *The Interdependence of Science and Law*, 82 JUDICATURE 24 (1998); David L. Bazelon, *Coping with Technology Through the Legal Process*, 62 CORNELL L. REV. 817, 822 (1977).

<sup>37</sup> *Entm't Software Ass'n v. Blagojevich*, 404 F. Supp. 2d 1051 (N.D. Ill. 2005), *aff'd* 469 F.3d 641 (7th Cir. 2006).

<sup>38</sup> Transcript of Proceedings at 347, *Entm't Software Ass'n v. Blagojevich*, No. 05-4265 (N.D. Ill. Nov. 15, 2005).

<sup>39</sup> Gatowski et al., *supra* note 36, at 455.

<sup>40</sup> See Elizabeth Mertz, *Social Science and the Intellectual Apprenticeship: Moving the Scholarly Mission of Law Schools Forward*, 17 J. LEGAL WRITING INST. 427 (2011).

<sup>41</sup> *Id.* at 434-35.

school curriculum committees. As relevant examples, Professor Susan Haack describes several additional ways in which the goals of scientific inquiry clash with the legal system. Of importance for the present discussion is that at least some of them should have been less of a problem in the video game violence litigation, relative to more typical cases involving scientific evidence. This suggests that these cases should have been relatively easier for the courts than more typical cases.

First on her list is that litigation is likely to arise in areas where commercially interested parties conduct much of the research.<sup>42</sup> For example, litigation over a drug's side effects will implicate research sponsored by drug companies. The effects of media violence, by contrast, are heavily researched by academics. While there are exceptions, most of the research is not sponsored by media companies. The primary counter-example is the well-respected National Television Violence Study.<sup>43</sup> Although it was sponsored by the National Cable Television Association, this study is routinely cited without suggestions that the results were biased.<sup>44</sup> As for the effects of video game violence specifically, the relevant research is mostly, if not exclusively, conducted by academic researchers independent of the industry.

Second on Haack's list is the legal system's aspiration to resolve disputes promptly.<sup>45</sup> While the legal system often seems quite slow (and often is quite slow), it still operates on a schedule of sorts. "Scientific inquiry," by contrast, "takes the time it takes."<sup>46</sup> Private parties with a dispute cannot wait decades for scientists to reach a firm consensus about an answer to a question. Even if someone planning a lawsuit was content to wait for additional research, the statute of limitations works against delays. And once litigation begins, courts are unlikely to require litigants to stay the proceedings for many years or decades while scientists conduct research on questions related to the litigation. Plus, the party advantaged by the lack of scientific answers would usually have an incentive to resist extensive delays designed to facilitate scientific research. The video game violence litigation was different. Given the nature of the question involved, courts could require the government to wait so long as the judges thought the science was insufficient. The mechanism for doing so was to rule against the government. As long as the scientific evidence was insufficient to justify the states' restrictions on the sale of violent video games, the

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<sup>42</sup> See Haack (2009), *supra* note 2, at 15–16.

<sup>43</sup> See 1 NATIONAL TELEVISION VIOLENCE STUDY (1997); 2 NATIONAL TELEVISION VIOLENCE STUDY (1998).

<sup>44</sup> See 1 NATIONAL TELEVISION VIOLENCE STUDY, *supra* note 43, at 7 (explaining the authors' independence from their sponsors).

<sup>45</sup> See Haack (2009), *supra* note 2, at 16.

<sup>46</sup> *Id.* at 12 (emphasis omitted).

states lost. When the scientific evidence becomes more compelling, the government is free to enact a new law and begin the litigation again.<sup>47</sup> In the meantime, the First Amendment resolves doubts in favor of free expression. The government therefore “bears the risk of uncertainty.”<sup>48</sup>

Third on Haack’s list is that science often cannot answer the questions courts want to answer.<sup>49</sup> While scientists may conclude that some substance increases the risk of cancer for people in general or for people in certain categories, it is often more difficult to say whether a substance caused a *particular* person’s cancer.<sup>50</sup> Multiple causes are usually at work, and it is quite challenging to parcel out a percentage of blame to each cause or variable in a specific case, to establish what is sometimes called “single-event” or “token-level” causation.<sup>51</sup> Claiming that the video game *Mortal Kombat* caused one child to stab another with a kitchen knife, for example, ignores the multiple causal factors at work.<sup>52</sup> Few people who play the game go on to violently kill other people. *Mortal Kombat* alone cannot explain the rare violent act: “[A]ggression is multicausal, and media violence is only one of many risk factors.”<sup>53</sup> Unlike cases focusing on single events, the cases dealing with restrictions on minors’ access to violent video games were

<sup>47</sup> See Fred C. Zacharias, *Flowcharting the First Amendment*, 72 CORNELL L. REV. 936, 981 n.224 (1987) (“In theory, if a court holds a statute unconstitutional the legislature can simply reenact it.”). The Supreme Court of Ohio might disagree that a statute restricting access to violent video games could be reenacted after being found unconstitutional:

[N]o member of this court can, consistent with his or her oath of office, find that the General Assembly has operated within the boundaries of its constitutional authority by brushing aside a mandate of this court on constitutional issues as if it were of no consequence. Indeed, the very notion of it threatens the judiciary as an independent branch of government and tears at the fabric of our Constitution.

State *ex rel.* Ohio Acad. of Trial Lawyers v. Sheward, 715 N.E.2d 1062, 1086–87 (Ohio 1999). This court’s unusual view that a legislature violates separation of powers principles when it enacts a statute with provisions previously found unconstitutional has been described as “astonishing.” Richard W. Murphy, *Separation of Powers and the Horizontal Force of Precedent*, 78 NOTRE DAME L. REV. 1075, 1151 (2003). Perhaps the Ohio Supreme Court would view a situation differently where the legislature did not claim to “respectfully disagree” with the court—as it did in *Sheward*—but instead thought new information could, consistent with the court’s prior decisions, justify the reenactment of legislation found unconstitutional under different circumstances. See *Sheward*, 715 N.E.2d at 1086.

<sup>48</sup> *Brown v. Entm’t Merchs. Ass’n*, 131 S. Ct. 2729, 2739 (2011).

<sup>49</sup> See Haack (2009), *supra* note 2, at 16.

<sup>50</sup> See Douglas L. Weed, *Causation: An Epidemiologic Perspective (In Five Parts)*, 12 J.L. & POL’Y 43, 44 (2003); Michael D. Green et al., *Reference Guide on Epidemiology*, in FEDERAL JUDICIAL CENTER REFERENCE MANUAL ON SCIENTIFIC EVIDENCE 333, 337, 381–86 (2d ed. 2000).

<sup>51</sup> JUDEA PEARL, CAUSALITY 309–10 (Cambridge Univ. Press 2d ed. 2009). See also JAMES WOODWARD, MAKING THINGS HAPPEN 17 (2003) (“Causal claims or explanations of particular events . . . are often called *token causal claims* or *singular causal explanations* . . .”).

<sup>52</sup> See *Wilson v. Midway Games, Inc.*, 198 F. Supp. 2d 167 (D. Conn. 2002).

<sup>53</sup> Gentile, Saleem, & Anderson, *supra* note 5, at 32. See also ANDERSON, GENTILE & BUCKLEY, *supra* note 4, at 21.

not about whether violent video games caused harm to a particular person, but whether violent video games cause harm to children generally. Even so, courts probably would have liked clear examples of violent video games causing particular acts of violence. Writing for the Seventh Circuit in *American Amusement Machine Ass'n v. Kendrick*, Judge Richard Posner noted that the studies submitted to the court did not show that violent video games “ever caused anyone to commit a violent act,” though he also said that the studies failed to show these games “caused the average level of violence to increase anywhere.”<sup>54</sup> Scientists are in a better position to make the second showing about the level of aggression or violence generally, which is what the courts were primarily concerned about in the video game violence cases.

Fourth, Haack worries that litigation may attract scientists who claim greater certainty than the science in their field justifies, either because they are at the margins of their fields or because they are willing to exaggerate for a price.<sup>55</sup> According to Gentile, Saleem, and Anderson, the entertainment industries generally and the video game industry in particular hired “experts” (their scare quotes) to refute the findings of *genuine* experts who do media violence research. Their “absolutely necessary” qualifications for genuine expertise, however, go too far. For example, they argue that a person must be an expert on “all of the major research designs” used in media violence research,<sup>56</sup> but it makes little sense to reject an expert who would testify about whatever research designs are within his or her expertise just because he or she is not an expert on other research designs. They also rule out as a legitimate expert anyone who does not do original research on media violence effects.<sup>57</sup> Professor Howard Nusbaum, a cognitive psychologist and expert on brain imaging at the University of Chicago, is a relevant example. Nusbaum testified in the *Blagojevich* case in Illinois, and while he may not be one of the “real experts on media violence,” as Gentile, Saleem, and Anderson put it,<sup>58</sup> it is difficult to understand why Nusbaum should not testify on brain imaging research conducted by media violence researchers, even if he does not do media violence research himself. There is a danger of defining the relevant universe of experts so narrowly that the conventional wisdom of a relatively small community of researchers is immunized from informed, outside criticism. At the same time, as the science becomes more and more difficult, there is a legitimate concern that judges will be more

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<sup>54</sup> *Am. Amusement Mach. Ass'n v. Kendrick*, 244 F.3d 572, 578–79 (7th Cir. 2001).

<sup>55</sup> See Haack (2009), *supra* note 2, at 16–17.

<sup>56</sup> Gentile, Saleem & Anderson, *supra* note 5, at 46.

<sup>57</sup> See *id.*

<sup>58</sup> *Id.*

likely to defer to testimony that is essentially “black box” evidence, questions and conclusions with nothing comprehensible in between. The broader the definition of the relevant universe of experts, the more likely it is that parties can find experts with impressive résumés to exaggerate the certainty of their conclusions.

A fifth source of tension between science and law, one suggested by another item on Haack’s list, is that many scientific questions often require input from multiple researchers using multiple methods before scientists can reach a strong consensus.<sup>59</sup> In many situations, a one-off study produced for purposes of litigation will not be very compelling. To be sure, some questions may be *adequately* answered by a single well-done study. Suppose a manufacturer of bullet-resistant glass claimed that its glass can stop particular types of bullets fired by particular types of guns. Assume that a claim of false advertising under 15 U.S.C. § 1125(a)(1)(B) is brought against the manufacturer. A well-done laboratory test could probably provide an adequate assessment of the manufacturer’s claim. The result would not, of course, be final. Perhaps even this hypothetical test warrants replication, but it should be possible to reach a consensus about the glass’s protective capacity with a small number of properly conducted studies.<sup>60</sup> It should not take dozens or hundreds of studies, nor should it take years or decades of research.

Unlike the bullet-resistant glass example, which could be studied under carefully controlled laboratory conditions, other research questions are not so easy to answer because it is more difficult to control the many variables of interest. In *Annex Books*, Judge Easterbrook said there was reason to “doubt that Linz’s work is the last word” about the relationship between adult businesses and crime.<sup>61</sup> He added that “a multivariate regression would provide a better foundation than either a time series or a geographic cross-section.”<sup>62</sup> Perhaps a multivariate regression would have provided a better *foundation*, but regression analysis is not the be-all and end-all of social science, and it

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<sup>59</sup> Hack notes the potential need for “interlocking pieces of evidence” from different studies, but also how the rules of evidence may render the individual studies inadmissible. Haack (2009), *supra* note 2, at 18. See also Susan Haack, *Proving Causation: The Holism of Warrant and the Atomism of Daubert*, 4 J. HEALTH & BIOMEDICAL L. 253 (2008).

<sup>60</sup> For an example where a single independent test may be inadequate, see *Outdoor Techs., Inc. v. Vinyl Visions, LLC*, No. 06-cv-044, 2006 U.S. Dist. LEXIS 73337, at \*11–17 (S.D. Ohio Sept. 29, 2006). This case dealt with the alleged falsity of an advertising claim that a vinyl fence was the “most weatherable” fence on the market and therefore the most resistant to yellowing. The standards for testing the outdoor weathering of plastics recommend using tests in several different locations. See *ASTM D1435-05 Standard Practice for Outdoor Weathering of Plastics*, ASTM INT’L, <http://www.astm.org/Standards/D1435.htm> (last visited Jan. 29, 2013).

<sup>61</sup> *Annex Books, Inc. v. City of Indianapolis*, 581 F.3d 460, 464 (7th Cir. 2009).

<sup>62</sup> *Id.*

too would not be the “last word.”<sup>63</sup> There are many variables relevant to crime rates near adult entertainment businesses and many ways to model and test the relationship, few of which are likely to involve laboratory controls. For obvious reasons, there are no *Truman Show*-type studies of the causal relationship between adult businesses and crime.<sup>64</sup> It seems highly unlikely that even a single well-done study could offer a compelling answer. At best, such a study would just be a start. In contrast to the bullet-resistant glass example, doubts about the results of any one study of the relationship between adult businesses and crime should be almost automatic, even if the one study was well done.

Similarly, there are numerous issues to consider in designing a study to test the relationship between video game violence and aggression (or other negative effects): What type of study should be conducted? Experimental studies are better at demonstrating causation, but longitudinal studies are better at showing long-term effects. Or will a cross-sectional study suffice? What constitutes a valid definition of violence? How will violence be operationalized? Specifically, what violent game will be used? Does the context of the violence in the game matter? Does it matter, for example, whether the perpetrators of violence are rewarded or punished? Whether the violence is cartoonish or realistic looking? Whether the violence is sanitized or graphic? Whether the violence takes place in a fantasy setting or a real-world setting? What non-violent game will be used as a control? Is the non-violent game equivalent in all respects to the violent game except with regard to the violence? If not, do the differences matter? And what is a valid definition of aggression? How will it be operationalized? No one study can address all of these questions and the many other questions relevant to understanding the effects of video game violence. Multiple studies are needed to establish a relationship. Even more studies are needed to flesh out a blunt conclusion that video game violence causes aggression by examining the various contexts in which violence is presented and the relative harm that may result from violence in these different contexts. Many, many studies are needed to establish the “last word.” There are in fact many studies on the effects of media violence and video game violence—though still not enough to justify the restrictions on video games sought by legislators.

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<sup>63</sup> See, e.g., David A. Freedman, *Statistical Models and Shoe Leather*, 21 SOC. METHODOLOGY 291, 293 (1991) (discussing “examples of good empirical work and strategies for research that do not involve regression”).

<sup>64</sup> Nor are there any for media violence effects, of course. See ANDERSON, GENTILE & BUCKLEY, *supra* note 4, at 15.

## II. VIDEO GAME VIOLENCE IN COURT

Concerns about video game violence are almost as old as the video game industry. In 1976, a few years after the industry established itself with the release of *Pong*, Exidy released the first controversial video game, *Death Race*. The artwork on the game's cabinet featured a pair of Grim Reapers racing two small convertibles through a cemetery, and the object was for one or two players to run down pedestrians with their cars. The instructions defined the pedestrians as gremlins, but the primitive graphics of the time meant they were little more than stick figures. Upon hitting one of these gremlins, a piercing sound would be heard (perhaps the scream of a gremlin) and a cross would appear to mark the deceased gremlin's grave. The National Safety Council denounced the game as "sick, sick, sick."<sup>65</sup> Some local authorities denounced it too.<sup>66</sup> One arcade owner said he refused to carry the game because it was "just too gory."<sup>67</sup>

Many years later, video games finally caught up to the earlier denunciations of *Death Race* and actually became gory. Most notably, in 1992 Midway Manufacturing released *Mortal Kombat*, a blockbuster game using digitized martial artists and particularly violent finishing moves, or "Fatalities."<sup>68</sup> Probably the most famous—or notorious—of these Fatalities involved the character Sub-Zero pulling the head off of a defeated opponent with his or her spine still attached. Owing to its popularity and violent content, *Mortal Kombat* became a showcase title at the December 9, 1993 United States Senate hearings on video game violence organized by Senators Joseph Lieberman and Herb Kohl. Sub-Zero even performed his spine rip for the committee (on video tape). Senator Lieberman made clear at the end of the hearing that he would pursue government regulation of the industry, which the industry could avoid only through self-regulation.<sup>69</sup> The outcome of these hearings was the video game industry's creation of the Entertainment Software

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<sup>65</sup> 'Sick, Sick, Sick,' NEWSWEEK, Jan. 10, 1977, at 54.

<sup>66</sup> See Larry Young, *Local Safety Authorities Denounce Game*, SPOKESMAN-REVIEW (Spokane, Wash.), Dec. 29, 1976, at 10.

<sup>67</sup> Martha Schiff, *Electronic 'Killer' Game Spurned by Area Parlors*, EVENING NEWS (Newburg, New York), Dec. 31, 1976, at 3A.

<sup>68</sup> See, e.g., Editorial, *A Mortal Blow to Child's Play*, CHICAGO TRIBUNE, Sept. 21, 1993, at 18 ("Remember when you used to hope those nice, innocent video games would distract your children from the violence on television? Those days are gone. Meet *Mortal Kombat*, a video game that puts new levels of violence onto television and makes network shows look tame."); Mike Snider, *Graphic Violence Escalates on High-Tech Video Games*, USA TODAY, June 4, 1993, at 3D ("*Mortal Kombat* goes far beyond the carnage portrayed by its predecessor, *Street Fighter II*").

<sup>69</sup> See *Hearing on Video Game Violence*, S. Governmental Affairs & Judiciary Subcomms., 103d Cong. (1993), available at <http://www.c-spanvideo.org/program/52848-1> (C-SPAN DVD, Program ID 52848-1).

Rating Board (“ESRB”).<sup>70</sup>

The creation of the ESRB kept the government at bay for only so long, and within less than a decade after the 1993 Senate hearings, legislative concerns about video game violence led to a series of enactments to restrict minors’ access to violent video games. Table 1 lists the various enactments and the key judicial decisions addressing their constitutionality. All of these enactments were directed at violence. Some were directed at sexual content too,<sup>71</sup> but only the challenges to restrictions on violent video games are presently of interest. The penalties for violating these statutes ranged in severity. Minnesota sought only a twenty-five-dollar fine for violations.<sup>72</sup> Louisiana imposed a penalty ranging from one hundred to two thousand dollars, possibly accompanied by up to one year in prison “with or without hard labor.”<sup>73</sup> Although the two earliest district court decisions upheld the local ordinances before them,<sup>74</sup> these decisions were reversed on appeal, and the remaining decisions resulted in defeats for the government and victories for the video game industry. The Supreme Court finally weighed in with a decision in June 2011, where it held that California’s video game violence law violated the First Amendment, probably settling the matter for the foreseeable future.<sup>75</sup>

<sup>70</sup> See STEVEN L. KENT, *THE ULTIMATE HISTORY OF VIDEO GAMES* 466–80 (2001); John Burgess, *Video Game Industry Plans Rating System; Move is Response to Congressional Pressure*, WASH. POST, Dec. 8, 1993, at F1.

<sup>71</sup> See *Am. Amusement Mach. Ass’n v. Kendrick*, 244 F.3d 572, 579 (7th Cir. 2001) (“We are not concerned with the part of the Indianapolis ordinance that concerns sexually graphic expression.”); *Entm’t Software Ass’n v. Granholm*, 426 F. Supp. 2d 646, 648 (E.D. Mich. 2006) (“The Act regulates the distribution of both sexually explicit video games and ultra violent explicit video games to those under the age of 17. The plaintiffs only challenge the second part of the Act dealing with ultra violent explicit video games.”); *Entm’t Software Ass’n v. Blagojevich*, 469 F.3d 641, 643 (7th Cir. 2006) (“The plaintiffs, associations representing video game manufacturers and retailers, successfully challenged the constitutionality of the Illinois Sexually Explicit Video Game Law in the district court. . . . Primarily because we conclude that the Sexually Explicit Video Game Law is not sufficiently narrowly tailored, we affirm the judgment of the district court.”).

<sup>72</sup> See *Entm’t Software Ass’n v. Hatch*, 443 F. Supp. 2d 1065, 1067 (D. Minn. 2006), *aff’d sub nom.* *Entm’t Software Ass’n v. Swanson*, 519 F.3d 768 (8th Cir. 2008).

<sup>73</sup> *Entm’t Software Ass’n v. Foti*, 451 F. Supp. 2d 823, 838 (M.D. La. 2006).

<sup>74</sup> See *Interactive Digital Software Ass’n v. St. Louis Cnty.*, 200 F. Supp. 2d 1126, 1141 (E.D. Mo. 2002) (“Accordingly, the Court finds, based on the evidence in the record, that plaintiffs failed to show that St. Louis County Ordinance No. 20,193 (Oct. 26, 2000) . . . is unconstitutional and that they are entitled to judgment as a matter of law. Therefore, plaintiffs’ summary judgment motion is denied.”), *rev’d* 329 F.3d 954 (8th Cir. 2003); *Am. Amusement Mach. Ass’n v. Kendrick*, 115 F. Supp. 2d 943, 981 (S.D. Ind. 2000) (“The plaintiffs have not shown they are reasonably likely to succeed on their claims that the Indianapolis Ordinance violates the First Amendment or is unconstitutionally vague. Accordingly, the plaintiffs’ motion for a preliminary injunction is denied.”), *rev’d* 244 F.3d 572 (7th Cir. 2001).

<sup>75</sup> The Supreme Court did leave at least one potential opening for additional legislation independent of any developments in the scientific literature. In footnote 3, the Court suggested a state might be allowed to set up a list of children not allowed to purchase violent video games,



With the exception of Oklahoma, which chose to rest its argument on “common sense,”<sup>76</sup> the state or local governments in all of these lawsuits relied on the scientific evidence about the effects of video game violence to justify their laws.

**Table 1: Enacted Legislation and Key Judicial Decisions**

Date	Jurisdiction	Measure	Decision(s)
July 10, 2000	City of Indianapolis/ Marion County	General Ordinance No. 72-2000	American Amusement Machine Ass’n v. Kendrick, 115 F. Supp. 2d 943 (S.D. Ind. 2000), rev’d 244 F.3d 572 (7th Cir. 2001)
October 26, 2000	St. Louis County, Missouri	County Ordinance No. 20,193	Interactive Digital Software Ass’n v. St. Louis County, 200 F. Supp. 2d 1126 (E.D. Mo. 2002), rev’d 329 F.3d 954 (8th Cir. 2003)
May 20, 2003	Washington	House Bill 1009	Video Software Dealers Ass’n v. Maleng, No. 03-1245 (W.D. Wash. July 10, 2003); Video Software Dealers Ass’n v. Maleng, 325 F. Supp. 2d 1180 (W.D. Wash. 2004)
July 25, 2005	Illinois	Public Act 94-0315	Entertainment Software Ass’n v. Blagojevich, 404 F. Supp. 2d 1051 (N.D. Ill. 2005), aff’d 469 F.3d 641 (7th Cir. 2006)
September 14, 2005	Michigan	Public Act 108	Entertainment Software Ass’n v. Granholm, 404 F. Supp. 2d 978 (E.D. Mich. 2005); Entertainment Software Ass’n v. Granholm, 426 F. Supp. 2d 646 (E.D. Mich. 2006)
October 7, 2005	California	Assembly Bill 1179	Video Software Dealers Ass’n v. Schwarzenegger, 401 F. Supp. 2d 1034 (N.D. Cal. 2005); Video Software Dealers Ass’n v. Schwarzenegger, 2007 U.S. Dist. LEXIS 57472, No. 05-4188 (N.D. Cal. Aug. 6, 2007), aff’d 556 F.3d 950 (9th Cir. 2009), aff’d sub nom. Brown v. Entertainment Merchants Ass’n, 131 S. Ct. 2729 (2011)
May 31, 2006	Minnesota	Senate File 785	Entertainment Software Ass’n v. Hatch, 443 F. Supp. 2d 1065 (8th Cir. 2008), aff’d sub nom. Entertainment Software Ass’n v. Swanson, 519 F.3d 768 (8th Cir. 2008)
June 9, 2006	Oklahoma	House Bill 3004	Entertainment Merchants Ass’n v. Henry, No. 06-675, 2007 U.S. Dist. LEXIS 69139, 2007 WL 2743097 (W.D. Okla. Sept. 17, 2007)
June 15, 2006	Louisiana	Act 441	Entertainment Software Ass’n v. Foti, 451 F. Supp. 2d 823 (M.D. La. 2006)

provided that it only included the names of children whose parents put them on the list. See *Brown v. Entm’t Merchs. Ass’n*, 131 S. Ct. 2729, 2736 n.3 (2011).

<sup>76</sup> *Entm’t Merchs. Ass’n v. Henry*, No. CIV-06-675-C, 2007 U.S. Dist. LEXIS 69139, at \*17 (W.D. Okla. Sept. 17, 2007); Defendants’ Response to Plaintiffs’ Motion for Summary Judgment and Br. in Support, *Henry*, No. CIV-06-675-C, at 9 (Oct. 27, 2006) (“Plaintiffs’ contention that there is no psychological study that validates harm to children is misplaced. . . . Common sense would dictate that playing a game where you can ‘curb stomp’ people or kill them with glass shards, or suffocate them with plastic bags (*Manhunt*) by controlling a joystick is not good for children.”) (italics added).

The video game violence litigation presents a good opportunity to examine the use of science in the courts in a situation where at least some of the common tensions between science and the law identified by Professor Haack were of less concern. In the remaining part of this Article, I first look at the video game violence cases in the lower courts, focusing on three interrelated categories of translation challenges: (1) identifying the research questions addressed by the scientific literature on media violence, (2) selecting the literature to provide to the courts, and (3) explaining the science to the courts. I then look at how the Supreme Court addressed the science.

How did the courts, including the lawyers, do? The record is mixed, suggesting that even easier cases for dealing with scientific evidence still present significant challenges for the courts. Perhaps the most challenging problem was reducing a large scientific literature into something manageable but still useful. The cases do illustrate one possibility for modest improvement, however. The judge that most thoroughly considered the scientific evidence is the one that held a trial on the merits, thereby reducing the role of the attorneys as translators and giving the judge a potentially valuable opportunity to interact with the expert witnesses. While a trial is not the only procedural vehicle for trial court judges to interact with experts, the judges in the remaining cases apparently did not make use of these other opportunities. Judges may be well advised to take advantage of the opportunities when they arise, a conclusion reinforced by studies finding that jurors are often capable of dealing with scientific evidence in the context of a trial.<sup>77</sup>

Justice Breyer proposed an alternative solution to the challenges that the courts faced in dealing with the scientific evidence in the video game violence cases: defer to the legislature.<sup>78</sup> He offered no evidence for the legislature's superiority in analyzing scientific evidence, either scientific evidence generally or the video game violence literature specifically. A preliminary review of the legislative history in California suggests that Breyer's faith in the legislature was misplaced.<sup>79</sup> Legislatures face translation challenges too. In my view, the First Amendment interests at stake in these cases outweighed the speculative possibility that a legislature is better able to assess scientific

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<sup>77</sup> See Valerie P. Hans & Neil Vidmar, *The Verdict on Juries*, 91 JUDICATURE 226, 227 (2008) ("Jurors' individual and collective recall and comprehension of evidence are substantial. Jurors critically evaluate the content and consistency of testimony provided by both lay and expert witnesses, and do not appear to rubber stamp expert conclusions."). See also Valerie P. Hans, *Judges, Juries, and Scientific Evidence*, 16 J.L. & POL'Y 19 (2007); Richard Lempert, *Civil Juries and Complex Cases*, in VERDICT: ASSESSING THE CIVIL JURY SYSTEM 181 (Robert E. Litan ed., Brookings Inst. 1993).

<sup>78</sup> See *Brown v. Entm't Merchs. Ass'n*, 131 S. Ct. 2729, 2770 (Breyer, J., dissenting).

<sup>79</sup> See *infra* Part II.B.

evidence than the courts.

### A. *The Lower Courts*

Prior to the Supreme Court's decision in *Brown*, there were open questions about the appropriate standard for assessing the constitutionality of the various laws restricting access to violent video games. The more deferential the standard, the less thoroughly the courts needed to review the scientific evidence. Strict scrutiny is the toughest standard. When a restriction on speech is subject to strict scrutiny, the law must be "justified by a compelling government interest" and it must be "narrowly drawn to serve that interest."<sup>80</sup> Additionally, "[t]he State must specifically identify an 'actual problem' in need of solving, and the curtailment of free speech must be actually necessary to the solution."<sup>81</sup> But prior to *Brown*, it was plausible that the Supreme Court might impose a lower standard. In *Ginsberg v. New York*,<sup>82</sup> a case involving the sale of "'girlie' magazines" to a minor in violation of New York law,<sup>83</sup> the Court upheld a statute that prohibited the sale to minors of sexually explicit material that "(i) predominantly appeals to the prurient, shameful or morbid interest of minors, and (ii) is patently offensive to prevailing standards in the adult community as a whole with respect to what is suitable material for minors, and (iii) is utterly without redeeming social importance for minors."<sup>84</sup> The New York legislature believed that sexually explicit publications are harmful to minors. The Supreme Court did not require scientific certainty that the legislature was right.<sup>85</sup> The Court did not even require a scientific consensus. The Court did refer to a consensus among commentators, but the consensus was that the scientific evidence was ambiguous, not that sexually explicit publications are harmful to minors.<sup>86</sup>

Where *Ginsberg* applies, the legislature only needs a rational basis for its belief that prohibited materials cause harm to minors, thereby allowing material to be deemed obscene for minors—even though not obscene for adults—under what is sometimes described as *Ginsberg's* variable obscenity standard.<sup>87</sup> Whether *any* scientific evidence is

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<sup>80</sup> *Brown*, 131 S. Ct. at 2738.

<sup>81</sup> *Id.* (quoting *United States v. Playboy Entm't Grp.*, 529 U.S. 803, 822 (2000)).

<sup>82</sup> *Ginsberg v. New York*, 390 U.S. 629 (1968).

<sup>83</sup> *Id.* at 631.

<sup>84</sup> *Id.* at 633, 646.

<sup>85</sup> *See id.* at 642–43.

<sup>86</sup> *See id.* at 642.

<sup>87</sup> *See id.* at 641 ("To sustain state power to exclude material defined as obscenity by § 484-h requires only that we be able to say that it was not irrational for the legislature to find that exposure to material condemned by the statute is harmful to minors."). *See also* *Interactive Digital Software Ass'n v. St. Louis Cnty.*, 329 F.3d 954, 959 (8th Cir. 2003) ("*Ginsberg* . . . invokes the much less exacting 'rational basis' standard of review.").

required under *Ginsberg* is not clear. Maybe a common-sense view that the category of speech at issue is plausibly considered obscene for minors is sufficient. Or maybe the legislature also needs some scientific evidence, and *Ginsberg* allows legislatures to resolve any reasonable disagreement among scientists about the meaning of the evidence, thereby leaving courts with the responsibility to just confirm the existence of reasonable disagreement among scientists.

For the most part, the courts refused to extend *Ginsberg*'s variable obscenity standard to violent content. In *Kendrick* the Seventh Circuit allowed for the possibility that violent imagery might be obscene, but the court did not think the video games submitted in that case could plausibly qualify, nor did the government attempt to defend its ordinance on this basis.<sup>88</sup> Some of Judge Posner's language suggested that the court was applying *Ginsberg*'s standard, but ultimately the court held that the grounds for restricting minors' access to video games "must be *compelling* and not merely plausible,"<sup>89</sup> which is the language of strict scrutiny, not rational basis review.<sup>90</sup> Other courts more explicitly rejected *Ginsberg*'s applicability to violent media.<sup>91</sup> Except

<sup>88</sup> See *Am. Amusement Mach. Ass'n v. Kendrick*, 244 F.3d 572, 575 (7th Cir. 2001).

<sup>89</sup> *Id.* at 576 (emphasis added). Cf. *Entm't Software Ass'n v. Blagojevich*, 404 F. Supp. 2d 1051, 1076 (N.D. Ill. 2005) ("As the Seventh Circuit made clear in *Kendrick*, however, 'violence and obscenity are distinct categories of objectionable depiction,' subject to different levels of scrutiny.").

<sup>90</sup> *Kendrick* does not contain an explicit reference to "strict scrutiny." See *Kendrick*, 244 F.3d 572.

<sup>91</sup> See *Video Software Dealers Ass'n v. Schwarzenegger*, 556 F.3d 950, 960 n.14 (9th Cir. 2009) ("We also reject the State's more general request that we equate violent content with unprotected 'obscenity.'"), *aff'd sub nom.* *Brown v. Entm't Merchs. Ass'n*, 131 S. Ct. 2729 (2011); *Interactive Digital Software Ass'n*, 329 F.3d at 959 ("In *Ginsberg*, the Supreme Court recognized that the government could legitimately regulate sexually explicit material that is obscene as to minors but not obscene as to adults. But *Ginsberg* did not involve protected speech (like the speech at issue in this case) . . .") (internal citation omitted); *Entm't Merchs. Ass'n v. Henry*, No. CIV-06-675-C, 2007 U.S. Dist. LEXIS 69139, at \*11 (W.D. Okla. Sept. 17, 2007) ("The *Ginsberg* decision, however, concerned only sexually explicit or 'obscene' material, which is unprotected by the First Amendment, rather than the protected expression at issue in this case. . . . Defendants may not rely on *Ginsberg* as authorizing the enhanced restrictions of the Act on dissemination to minors.") (emphasis omitted); *Entm't Software Ass'n v. Foti*, 451 F. Supp. 2d 823, 836 (M.D. La. 2006) ("While a 'harmful to minors' analysis has been used by the Supreme Court to uphold regulation of obscene material harmful to minors, this does not mean that the same considerations apply in the context of 'violent video games.'"); *Entm't Software Ass'n v. Granholm*, 426 F. Supp. 2d 646, 652 (E.D. Mich. 2006) ("This court finds the *Ginsberg* test inapplicable to the ultra-violent explicit section of the Act."); *Blagojevich*, 404 F. Supp. 2d at 1076 (rejecting *Ginsberg*'s applicability to violence on the basis of *Kendrick*). In *Video Software Dealers Ass'n v. Maleng*, the district court did not need to resolve the *Ginsberg* question, but it left open the possibility that certain violent imagery might qualify as obscene. *Video Software Dealers Ass'n v. Maleng*, 325 F. Supp. 2d 1180, 1190 (W.D. Wash. 2004) ("[I]t is reasonable to ask whether a state may ever impose a ban on the dissemination of video games to children under 18. The answer is 'probably yes' if the games contain sexually explicit images, and 'maybe' if the games contain violent images, such as torture or bondage, that appeal to the prurient interest of minors.") (internal citations omitted).

for the two district courts that were overruled on appeal,<sup>92</sup> the lower courts generally agreed that restrictions on minors' access to violent video games are content-based restrictions on speech subject to strict scrutiny. The government defendants therefore needed to demonstrate that the restrictions on speech served a compelling state interest and were narrowly tailored to serve that interest.<sup>93</sup>

The scientific research was relevant to the analysis in these cases because the government needed to show that the harm to minors was "real" and "not merely conjectural" and that the restrictions would "in fact alleviate these harms in a direct and material way."<sup>94</sup> At the same time the lower courts applied strict scrutiny, however, some courts also said that the legislatures' judgments only need to be based on "substantial evidence,"<sup>95</sup> a standard calling for "substantial deference" to the predictions of the legislatures.<sup>96</sup> This deference was in name only. In its second case dealing with violent video game legislation, the Eighth Circuit actually demanded *scientific certainty* of the harm caused

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<sup>92</sup> See *Interactive Digital Software Ass'n v. St. Louis Cnty.*, 200 F. Supp. 2d 1126, 1141 (E.D. Mo. 2002) ("The Court finds that plaintiffs failed to meet this burden of showing that video games are a protected form of speech under the First Amendment."), *rev'd* 329 F.3d 954 (8th Cir. 2003); *Am. Amusement Mach. Ass'n v. Kendrick*, 115 F. Supp. 2d 943, 946 (S.D. Ind. 2000) ("In short, the Ordinance reflects a careful, reasonable, and limited extension of the principles applied in *Ginsberg* to protect children from pornography."), *rev'd* 244 F.3d 572 (7th Cir. 2001).

<sup>93</sup> See *Schwarzenegger*, 556 F.3d at 958; *Entm't Software Ass'n v. Swanson*, 519 F.3d 768, 771 (8th Cir. 2008); *Interactive Digital Software Ass'n v. St. Louis Cnty.*, 329 F.3d 954, 958 (8th Cir. 2003); *Henry*, 2007 U.S. Dist. LEXIS 69139, at \*10; *Foti*, 451 F. Supp. 2d at 831; *Granholm*, 426 F. Supp. 2d at 651–52; *Maleng*, 325 F. Supp. 2d at 1186.

<sup>94</sup> *Schwarzenegger*, 556 F.3d at 962 (quoting *Turner Broad. Sys., Inc. v. FCC*, 512 U.S. 622, 664 (1994) (plurality opinion)); *accord Swanson*, 519 F.3d at 771; *Interactive Digital Software Ass'n*, 329 F.3d at 958; *Maleng*, 325 F. Supp. 2d at 1187. Although this particular language comes from *Turner*, which involved intermediate rather than strict scrutiny (according to *Brown*), equivalent language can be found in *Brown*: "The State must specifically identify an 'actual problem' in need of solving, and the curtailment of free speech must be actually necessary to the solution." *Brown v. Entm't Merchs. Ass'n*, 131 S. Ct. 2729, 2738 (2011) (citations omitted).

<sup>95</sup> See, e.g., *Schwarzenegger*, 556 F.3d at 967 ("Under strict scrutiny, the State has not produced substantial evidence that supports the Legislature's conclusion that violent video games cause psychological or neurological harm to minors."); *Interactive Digital Software Ass'n*, 329 F.3d at 959 ("[T]he County has failed to present the 'substantial supporting evidence' of harm that is required before an ordinance that threatens protected speech can be upheld."); *Henry*, 2007 U.S. Dist. LEXIS 69139, at \*16–17 ("Where the challenged legislation restricts or limits freedom of speech, however, the courts must ensure that the legislature's judgments are based on reasonable inferences drawn from substantial evidence."); *Maleng*, 325 F. Supp. 2d at 1187 ("Where the challenged legislation restricts or limits freedom of speech, however, the courts must ensure that the legislature's judgments are based on reasonable inferences drawn from substantial evidence."). *But see Entm't Software Ass'n v. Hatch*, 443 F. Supp. 2d 1065, 1069 (D. Minn. 2006) (finding *Turner* inapposite because *Turner* was an application of intermediate scrutiny).

<sup>96</sup> See *Turner Broad. Sys., Inc. v. FCC*, 520 U.S. 180, 195–96 (1997); *Turner Broad. Sys., Inc. v. FCC*, 512 U.S. 622, 666 (1994) (plurality opinion) ("This obligation to exercise independent judgment when First Amendment rights are implicated is not a license to reweigh the evidence *de novo*, or to replace Congress' factual predictions with our own. Rather, it is to assure that, in formulating its judgments, Congress has drawn reasonable inferences based on substantial evidence.").

by video game violence.<sup>97</sup> No other court went this far and some courts, like the Ninth Circuit, said that strict scrutiny does not require scientific certainty.<sup>98</sup> But even these courts were not deferring to the legislatures. There is an obvious tension between the deference of the substantial-evidence standard and the lack of deference of the strict-scrutiny standard, but the lower courts did not dwell on this problem. Even though most courts did not demand scientific certainty, they still scrutinized the evidence; they did not defer to the legislatures. The Supreme Court eventually validated this lack of deference in *Brown*, which rejected an obligation to defer to legislative predictions under the substantial evidence standard.<sup>99</sup>

### 1. Identifying the Research Questions

The courts agreed that evidence was needed, not just common sense or genuine scientific disagreement. But evidence of what, precisely? The government defendants initially had to decide what interest or interests they would offer to justify their restrictions on minors' access to violent video games. They then needed to provide evidence in support of these interests, which in the present set of cases meant evidence of harmful effects of video game violence. While media violence scholars vary in how they break down the possible effects of media violence and what terms they use to describe these effects, the literature emphasizes three general categories of effects potentially caused by media violence: (1) increased aggression or an "aggressor effect," (2) desensitization towards violence or a "bystander effect," and (3) increased fear of violence or a "victim effect."<sup>100</sup> Researchers point to at least fourteen specific effects, most of which are

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<sup>97</sup> See *Swanson*, 519 F.3d at 772 (referring to a requirement of "statistical certainty of causation" and "incontrovertible proof of a causal relationship").

<sup>98</sup> See *Schwarzenegger*, 556 F.3d at 964 ("Although we do not require the State to demonstrate a 'scientific certainty,' the State must come forward with more than it has."); see also *Maleng*, 325 F. Supp. 2d at 1188-89 ("Although 'we do not demand of legislatures scientifically certain criteria of legislation,' given the state of the existing research in this area, the Court finds that the Legislature's belief that video games cause violence, particularly violence against law enforcement officers, is not based on reasonable inferences drawn from substantial evidence.") (internal citation omitted).

<sup>99</sup> See *Brown*, 131 S. Ct. at 2738 ("Rather, relying upon our decision in *Turner Broad. Sys., Inc. v. FCC*, 512 U.S. 622 (1994), the State claims that it need not produce such proof because the legislature can make a predictive judgment that such a link exists, based on competing psychological studies. But reliance on *Turner Broadcasting* is misplaced. That decision applied *intermediate scrutiny* to a content-neutral regulation.") (parallel citations omitted).

<sup>100</sup> Douglas A. Gentile & Craig A. Anderson, *Violent Video Games: The Newest Media Violence Hazard*, in *MEDIA VIOLENCE AND CHILDREN* 131, 133-34 (Douglas A. Gentile ed., Praeger 2003). See also Gentile, Saleem & Anderson, *supra* note 5, at 23; W. JAMES POTTER, *THE 11 MYTHS OF MEDIA VIOLENCE* 29 (2003) [hereinafter POTTER (2003)]; POTTER (1999), *supra* note 5, at 25-26, 135-37.

probably variations on the three just mentioned.<sup>101</sup> The aggressor effect can be broken down into at least three more specific subcategories, including aggressive thoughts, aggressive feelings, and aggressive behavior.<sup>102</sup> Aggressive behavior can include physical aggression, verbal aggression, and relational aggression, the latter referring to things like spreading rumors with the intent to harm another person.<sup>103</sup> Within the video game violence literature, there is probably more research on aggressive behavior than the other effects.<sup>104</sup>

The government defendants in these cases described the state interests in different ways, but they often referred to protecting the psychological well-being of minors,<sup>105</sup> an interest previously validated by the Supreme Court.<sup>106</sup> The defendants usually went beyond this vague concern and also described the state interest, at least in part, as preventing increased aggression, particularly aggressive behavior.<sup>107</sup> In some courts, the defendants' claimed interest in preventing aggressive behavior presented a problem under *Brandenburg v. Ohio*.<sup>108</sup> Under *Brandenburg*, "The government may suppress speech for advocating the use of force or a violation of law only if 'such advocacy is directed to inciting or producing imminent lawless action and is likely to incite or

<sup>101</sup> See Gentile, Saleem & Anderson, *supra* note 5, at 23; POTTER (1999), *supra* note 5, at 123–35. An "appetite effect" is probably distinct from the three general effects listed above. It refers to media violence causing an increased appetite for even more violent entertainment. See Gentile & Anderson, *supra* note 100, at 134. Potter notes the need for more consistency in the terminology used by media violence researchers for these various effects. See POTTER (1999), *supra* note 5, at 137. I agree with Potter.

<sup>102</sup> See ANDERSON, GENTILE & BUCKLEY, *supra* note 4, at 57; Gentile, Saleem & Anderson, *supra* note 5, at 23–24.

<sup>103</sup> See ANDERSON, GENTILE & BUCKLEY, *supra* note 4, at 13–14.

<sup>104</sup> See Craig A. Anderson, Akiko Shibuya, Nobuko Iori, Edward L. Swing, Bard J. Bushman, Akira Sakamoto, Hannah R. Rothstein & Muniba Saleem, *Violent Video Game Effects on Aggression, Empathy, and Prosocial Behavior in Eastern and Western Countries: A Meta-Analytic Review*, 136 PSYCHOL. BULLETIN 151, 160 tbl.3 (2010).

<sup>105</sup> See, e.g., *Entm't Software Ass'n v. Swanson*, 519 F.3d 768, 771 (8th Cir. 2008) ("safeguarding both the psychological well-being and the moral and ethical development of minors"); *Interactive Digital Software Ass'n v. St. Louis Cnty.*, 329 F.3d 954, 958 (8th Cir. 2003) ("protecting the 'psychological well-being of minors'").

<sup>106</sup> See *Sable Comm'ns of Cal., Inc. v. FCC*, 492 U.S. 115, 126 (1989) ("We have recognized that there is a compelling interest in protecting the physical and psychological well-being of minors.").

<sup>107</sup> See *Interactive Digital Software Ass'n*, 329 F.3d at 958–59 ("aggressive behavior in the immediate situation [and] aggressive thoughts"); *Am. Amusement Mach. Ass'n v. Kendrick*, 244 F.3d 572, 575 (7th Cir. 2001) ("aggressive attitudes and behavior, which might lead to violence"); *Entm't Software Ass'n v. Foti*, 451 F. Supp. 2d 823, 831 (M.D. La. 2006) ("curbing violent behavior"); *Entm't Software Ass'n v. Granholm*, 426 F. Supp. 2d 646, 649 (E.D. Mich. 2006) ("violent, aggressive, and asocial behavior"); *Entm't Software Ass'n v. Blagojevich*, 404 F. Supp. 2d 1051, 1073 (N.D. Ill. 2005) (aggressive behavior and feelings); *Video Software Dealers Ass'n v. Maleng*, 325 F.2d 1180, 1186 (W.D. Wash. 2004) ("violence and aggression toward law enforcement officers").

<sup>108</sup> *Brandenburg v. Ohio*, 395 U.S. 444 (1969). See *Video Software Dealers Ass'n v. Schwarzenegger*, 556 F.3d 950, 961 n.15 (9th Cir. 2009) (collecting cases).

produce such action.”<sup>109</sup> In *Entertainment Software Ass’n v. Granholm*, as one example, the United States District Court for the Eastern District of Michigan held that Michigan’s restrictions on disseminating certain violent video games to minors failed under the *Brandenburg* standard because there was no evidence that video game violence causes *imminent* violence in the real world.<sup>110</sup> While Michigan made references to what might have been presented as separate interests, including preventing aggressive thoughts and feelings, it emphasized only aggressive behavior as the state’s interest (unless preventing aggressive thoughts and feelings was supposed to fall under the separate and more general heading of protecting minors’ psychological well-being).<sup>111</sup> Maybe other interests besides preventing aggressive behavior could have made it past the court’s initial analysis under *Brandenburg*. While Michigan might still have lost in the district court even if it passed the *Brandenburg* hurdle,<sup>112</sup> the failure of the state to carefully present the multiple and separate findings of the scientific literature about different effects weakened its argument.

California tried to avoid similar problems under *Brandenburg*, but in doing so, the state muddled its claimed interest in restricting minors’ access to violent video games. California’s Assembly Bill 1179, the Act later at issue before the Supreme Court, explicitly referenced concerns about “violent antisocial or aggressive behavior.”<sup>113</sup> Unlike some other courts, the United States District Court for the Northern District of California did not think the interest of preventing aggressive behavior presented a problem under *Brandenburg*.<sup>114</sup> On appeal before the Ninth Circuit, California’s brief explicitly mentioned concerns about aggressive behavior and even discussed studies dealing with aggressive behavior.<sup>115</sup> During the oral argument, however, Judge Consuelo

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<sup>109</sup> *Ashcroft v. Free Speech Coal.*, 535 U.S. 234, 253 (2002) (quoting *Brandenburg*, 395 U.S. at 447).

<sup>110</sup> See *Granholm*, 426 F. Supp. 2d at 652.

<sup>111</sup> See *id.* at 649; Defendants’ Motion in Opposition to Plaintiffs’ Motion for Summary Judgment and Defendants’ Cross-Motion for Summary Judgment at 3, *Granholm*, 426 F. Supp. 2d 646 (No. 05-73634).

<sup>112</sup> See *Granholm*, 426 F. Supp. 2d at 652 (“Even if the Act satisfied the *Brandenburg* requirements, the State has failed to support its claims by ‘substantial evidence.’”). See also *Foti*, 451 F. Supp. 2d at 831 (referring to the state’s interest in preventing psychological harm as “impermissible thought control”).

<sup>113</sup> Assemb. B. 1179 § 1, 2005–06 Reg. Sess. (Cal. 2005) (“The Legislature finds and declares all of the following: . . . The state has a compelling interest in preventing violent, aggressive, and antisocial behavior, and in preventing psychological or neurological harm to minors who play violent video games.”).

<sup>114</sup> See *Video Software Dealers Ass’n v. Schwarzenegger*, No. C-05-04188, 2007 U.S. Dist. LEXIS 57472, at \*24 (N.D. Cal. Aug. 6, 2007), *aff’d* 556 F.3d 950 (9th Cir. 2009), *aff’d sub nom. Brown v. Entm’t Merchs. Ass’n*, 131 S. Ct. 2729 (2011).

<sup>115</sup> Appellants’ Opening Brief at 24–37, *Video Software Dealers Ass’n v. Schwarzenegger*, 556 F.3d 950 (9th Cir. 2009) (No. 07-16620), 2008 WL 412514, *aff’d sub nom. Brown v. Entm’t*



Callahan asked Deputy Attorney General Zackery Morazzini if California had “abandoned” its argument about an interest in “preventing violent aggressive and antisocial behavior.”<sup>116</sup> Morazzini inexplicably responded that California had never even raised this argument.<sup>117</sup> While his answer was somewhat unclear, he did clearly say that one of California’s interests was preventing aggressive thoughts and some other effects like desensitization, but he seemed to disclaim a state interest in preventing aggressive behavior.<sup>118</sup> The Ninth Circuit concluded that California was no longer asserting an interest in preventing “violent, aggressive, and antisocial” behavior.<sup>119</sup> The discussion of the various forms of aggression in California’s brief did not carefully distinguish between the scientific evidence related to aggressive behavior and the scientific evidence related to aggressive thoughts and feelings, thereby making California’s entire discussion of aggression seem irrelevant under its stated interests.<sup>120</sup>

While the government defendants were sometimes vague or unclear about the interests at stake, the relevant literature is largely about violence and aggression. Courts therefore needed to be particularly attentive to how media violence researchers define these concepts. Violence and aggression can be defined broadly or narrowly. Media violence researchers usually define both broadly. Gentile, Saleem, and Anderson define these terms as follows:

*Media violence* refers to media depictions of aggressive and violent behavior directed at characters in the media story. Those characters can be human or nonhuman, cartoonish or visually realistic. Fictional, unrealistic, or animated violence is still considered violence if it meets the above definitions.<sup>121</sup>

Human aggression researchers define *aggression* as (a) a behavior that is intended to harm another individual, (b) the behavior is expected by the perpetrator to have some chance of actually harming that individual, and (c) the perpetrator believes that the target

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Merchs. Ass’n, 131 S. Ct. 2729 (2011).

<sup>116</sup> See Oral Argument at 3:30, *Schwarzenegger*, 556 F.3d 950 (No. 07-16620); *Schwarzenegger*, 556 F.3d at 961 (referring to some “early confusion” about what compelling interests California was relying upon).

<sup>117</sup> See Oral Argument at 3:45, *Schwarzenegger*, 556 F.3d 950 (No. 07-16620).

<sup>118</sup> See *id.*

<sup>119</sup> See *Schwarzenegger*, 556 F.3d at 961 (discussing the confusion). Cf. Brief of Respondents at 38, *Brown v. Entm’t Merchs. Ass’n*, 131 S. Ct. 2729 (2011) (No. 08-1448), 2010 WL 3535053 at \*38 (“California has largely disclaimed a violence-prevention rationale . . . . Instead, California focuses on a more amorphous harm—causing increased ‘aggressive thoughts and behavior’ in minors.”).

<sup>120</sup> For the discussion of aggression in California’s brief, see Appellants’ Opening Brief, *supra* note 115, at 28–34.

<sup>121</sup> Gentile, Saleem & Anderson, *supra* note 5, at 17.

individual is motivated to avoid the harm. *Violence* typically is defined by behavioral scientists as physical aggression that is so severe that the target is likely to suffer serious physical injury.<sup>122</sup>

Other media violence researchers have used broader definitions. Some, for example, define violence to include acts against inanimate objects, verbal acts, accidents, and acts of nature.<sup>123</sup> The quoted definitions, however, are fair representations of the media violence literature.

A common view among researchers is that the public defines media violence too narrowly because the public focuses on whether violence is graphic and therefore discounts violence that is sanitized.<sup>124</sup> The public also ignores violence when it is humorous.<sup>125</sup> Cartoon violence is largely unnoticed by the public even though “cartoons are consistently rated as the most violent programs on television.”<sup>126</sup> In referring to cartoon violence, media violence researchers are not thinking about only adult-oriented animation with graphic violence. According to Professor W. James Potter, “A social scientist who watches a cartoon such as *Tom and Jerry* sees many violent actions that are in a sanitized contextual pattern and knows that this context increases the likelihood that viewers will become desensitized.”<sup>127</sup> (Surprisingly, given the differences between media violence researchers and the public, researchers sometimes rely on subjects’ self-reports of exposure to media violence.<sup>128</sup>)

Unlike the public, media violence researchers see potentially harmful violence almost everywhere. Media violence researchers Haejung Paik and George Comstock conclude that if the measures of aggression in the literature are valid, then “very few” television programs can be considered harmless.<sup>129</sup> Media violence researchers often hold similarly broad views of violence in video games. *Space Invaders* (1978), *Pac-Man* (1980), and *Ms. Pac-Man* (1981) are violent.<sup>130</sup> *Zaxxon* (1982) is both “somewhat violent” and “highly

<sup>122</sup> *Id.* at 16–17 (citations omitted). See also ANDERSON, GENTILE & BUCKLEY, *supra* note 4, at 13.

<sup>123</sup> See POTTER (1999), *supra* note 5, at 64–73.

<sup>124</sup> See *id.* at 73–74; Gentile, Saleem & Anderson, *supra* note 5, at 17; ANDERSON, GENTILE & BUCKLEY, *supra* note 4, at 99; POTTER (2003), *supra* note 100, at 92–95; POTTER (1999), *supra* note 5, at 73–74.

<sup>125</sup> POTTER (2003), *supra* note 100, at 93–94.

<sup>126</sup> Karyn Riddle, Keren Eyal, Chad Mahood & W. James Potter, *Judging the Degree of Violence in Media Portrayals: A Cross-Genre Comparison*, 50 J. BROADCASTING & ELECTRONIC MEDIA 270, 282 (2006).

<sup>127</sup> POTTER (1999), *supra* note 5, at 75–76.

<sup>128</sup> See, e.g., ANDERSON, GENTILE & BUCKLEY, *supra* note 4, at 81–82, 99.

<sup>129</sup> Haejung Paik & George Comstock, *The Effects of Television Violence on Antisocial Behavior: A Meta-Analysis*, 21 COMM. RES. 516, 537–38 (1994).

<sup>130</sup> See Steven B. Silvern & Peter A. Williamson, *The Effects of Video Game Play on Young*

aggressive.”<sup>131</sup> According to Anderson, “the seemingly innocuous *Super Mario Brothers* games included the capacity to destroy harmful creatures . . . by jumping on top of them or by throwing fireballs at them.”<sup>132</sup> A 2001 study of E-rated games (“Everyone”) found that sixty-four percent contain acts of intentional violence.<sup>133</sup> A similar study in 2004 found that ninety-eight percent of T-rated (“Teen”) games contain violence.<sup>134</sup>

Media violence researchers are not always consistent in defining violence with broad definitions that are neutral about whether the violence is graphic. Anderson, Gentile, and Buckley claim “video games didn’t become very violent until the early 1990s.”<sup>135</sup> Elsewhere, Anderson claims “[t]ruly violent video games came of age in the 1990s with the killing games *Mortal Kombat*, *Street Fighter*, and *Wolfenstein 3D*.”<sup>136</sup> It is difficult to square these statements with the definitions of violence and aggression above. Based on those definitions, many older games contain more violence than more recent and more controversial games from the 1990s to the present. Modern games with stories like *Grand Theft Auto: San Andreas* (2004)<sup>137</sup> contain fewer acts of violence than early and very repetitious games like *Galaxian* (1979)<sup>138</sup> and *Galaga* (1981).<sup>139</sup> *Grand Theft Auto: San Andreas* includes breaks from the violence where the player is doing other things. *Galaxian* and *Galaga* do not. One study calculates that “the percentage of game play depicting violence” in both *Galaxian* and *Galaga* is one hundred

*Children’s Aggression, Fantasy, and Prosocial Behavior*, 8 J. APPLIED DEVELOPMENTAL PSYCHOL. 453 (1987) (describing *Space Invaders* as violent); Joseph R. Dominick, *Videogames, Television Violence, and Aggression in Teenagers*, 34 J. COMM. 136, 137 (1984) (describing *Pac-Man*, *Ms. Pac-Man*, *Space Invaders*, *Defender*, *Asteroids*, and *Donkey Kong* as “games in which the players performed acts that are violent in nature”). Cf. Joel Cooper & Diane Mackie, *Video Games and Aggression in Children*, 16 J. APPLIED SOC. PSYCHOL. 726, 731 (1986) (describing *Pac-Man* as a low-aggression game as compared to *Missile Command*).

<sup>131</sup> Craig A. Anderson & Catherine M. Ford, *Affect of the Game Player: Short-Term Effects of Highly and Mildly Aggressive Video Games*, 12 PERSONALITY & SOC. PSYCHOL. BULL. 390, 395 (1986).

<sup>132</sup> Craig A. Anderson, *Violent Video Games and Aggressive Thoughts, Feelings, and Behaviors*, in CHILDREN IN THE DIGITAL AGE 101, 101 (Sandra L. Calvert et al. eds., 2002) [hereinafter Anderson (2002)].

<sup>133</sup> Kimberly M. Thompson & Kevin Haninger, *Violence in E-Rated Video Games*, 286 J. AM. MED. ASS’N 591, 594 (2001).

<sup>134</sup> Kevin Haninger, M. Seamus Ryan & Kimberly M. Thompson, *Violence in Teen-Rated Video Games*, 6 MEDSCAPE GEN. MED., Mar. 12, 2004, available at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1140725>.

<sup>135</sup> ANDERSON, GENTILE & BUCKLEY, *supra* note 4, at 16.

<sup>136</sup> Anderson (2002), *supra* note 132, at 102.

<sup>137</sup> See GRAND THEFT AUTO: SAN ANDREAS (Rockstar Games 2004) (Sony PlayStation 2 game). See also GRAND THEFT AUTO: SAN ANDREAS (Rockstar Games 2005) (Microsoft Xbox game).

<sup>138</sup> See GALAXIAN (Midway Manufacturing Co. 1979).

<sup>139</sup> See GALAGA (Midway Manufacturing Co. 1981).

percent.<sup>140</sup> Whatever the percentage is for *Grand Theft Auto: San Andreas*, it is not one hundred percent.

Despite the apparent inconsistencies, the general sweep of the media violence literature goes well beyond describing as violent only the narrow class of graphically violent games usually targeted by the government. By focusing on graphic violence, the various attempts by the government to restrict minors' access to violent video games track the public's definition of violence rather than the usual, broader definitions used by media violence researchers. If one is persuaded by the media violence literature, then the justification for focusing legal restrictions on graphic violence alone is not clear. It could be counterproductive by reinforcing the view that non-graphic, sanitized violence is not harmful. Professor Potter actually ties an increase in graphic violence to a *decrease* in aggressiveness in viewers (but an increase in desensitization).<sup>141</sup> Whether focusing on graphic violence makes sense depends on the outcome of research that goes beyond the basic question of whether media violence causes aggression (and other effects) and instead considers the relative effects of violence in different contexts.

At the same time the media violence literature takes a broad approach to violence, it accepts that the context of the violence likely matters: "[N]ot all violent portrayals are equal with regard to the risk they might pose."<sup>142</sup> The context of violence likely matters even more than its frequency.<sup>143</sup> The literature recognizes, however, that there are many unresolved questions about the possible ways in which context matters. Games portray violence in many different ways and in many different contexts. There is therefore a need to figure out the potentially harmful effects of many contextual factors in violent games, such as whether the violence is rewarded or punished, cartoonish or realistic, sanitized or graphic, and so on.<sup>144</sup> One recent study contains a remarkable acknowledgment about the limitations of the media violence

<sup>140</sup> See Thompson & Haninger, *supra* note 133, at 596.

<sup>141</sup> See POTTER (2003), *supra* note 100, at 149 ("Notice how some factors work in opposite directions.").

<sup>142</sup> I NATIONAL TELEVISION VIOLENCE STUDY, *supra* note 43, at 19. See also Christopher P. Barlett et al., *The Effect of the Amount of Blood in a Violent Video Game on Aggression, Hostility, and Arousal*, 44 J. EXPERIMENTAL SOC. PSYCHOL. 539 (2008); Akiko Shibuya et al., *The Effects of the Presence and Contexts of Video Game Violence on Children: A Longitudinal Study in Japan*, 39 SIMULATION & GAMING 528, 528 (2008); Nicholas L. Carnagey & Craig A. Anderson, *The Effects of Reward and Punishment in Violent Video Games on Aggressive Affect, Cognition, and Behavior*, 16 PSYCHOL. SCI. 882 (2005); POTTER (2003), *supra* note 100, at 140–52.

<sup>143</sup> See POTTER (2003), *supra* note 100, at 140–41 (arguing that "our primary concern about the influence of media violence should be focused on context instead of frequency").

<sup>144</sup> See *id.* at 140–48; POTTER (1999), *supra* note 5, at 31–36, 87–95.

literature, given the confident claims about the effects of media violence summarized at the very beginning of this Article: “[R]esearchers have not yet answered a simple question: What kinds of violent video games are problematic for children?”<sup>145</sup> This acknowledgement calls attention to a dimension of the media violence literature going beyond the general question of whether media violence (broadly defined) causes aggression (broadly defined). While there is research on the implications of violence in various contexts, there is a broad range of variables that could be tested, and the literature on any particular variable remains limited, if it exists at all.<sup>146</sup> As for the effects of graphic violence in particular, more research is needed.<sup>147</sup>

Questions about what specific types of video game violence cause aggression should have been of crucial interest to the courts. Usually, they were not. The narrow tailoring requirement of strict scrutiny calls for the government to focus restrictions on the types of violent games that cause harm. The United States District Court for the Western District of Washington was attuned to this problem in *Video Software Dealers Ass’n v. Maleng*,<sup>148</sup> but the Washington statute at issue focused exclusively on video games where the players could engage in “realistic or photographic-like depictions” of violence against human law enforcement officers, even if not particularly graphic.<sup>149</sup> The lack of studies focusing on a specific relationship between video game violence and attitudes or behavior directed towards law enforcement officers did not escape the court’s notice.<sup>150</sup> In general, however, the lower courts, unlike the Supreme Court, did not focus on these types of contextual issues.

## 2. Selecting the Literature

Understanding the media violence literature’s basic research questions, including the definitions of the key concepts, is just a first

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<sup>145</sup> Shibuya et al., *supra* note 142, at 528.

<sup>146</sup> Professor Kevin Saunders notes that it would be at least difficult, and maybe impossible, for the media violence literature to comprehensively study the effects of the many different contextual variables that may increase, decrease, or nullify the harm that might otherwise be caused by a depiction of violence. See KEVIN W. SAUNDERS, *VIOLENCE AS OBSCENITY* 44 (1996).

<sup>147</sup> See Jeanne B. Funk et al., *Rating Electronic Games: Violence Is in the Eye of the Beholder*, 30 *YOUTH & SOC’Y* 283, 304 (1999) (“It appears that the assumption is made that the more realistic human violence is the only type of violence that should be restricted. However, with respect to the impact of electronic games, there are no data to support this assumption.”); BARRIE GUNTER ET AL., *VIOLENCE ON TELEVISION* 263 (2003) (“The extent to which prolonged and graphic violence may stimulate a fear response, aggression, or a desensitization response is still uncertain and requires further research.”).

<sup>148</sup> 325 F. Supp. 2d 1180 (W.D. Wash. 2004).

<sup>149</sup> *Id.* at 1189–90.

<sup>150</sup> See *id.* at 1188.

step. Gentile and Anderson say *scientists* will only accept conclusions about the effects of video game violence based on a broad research literature relying on multiple methods of inquiry.<sup>151</sup> Scientists may need to read a large portion of this literature to be convinced, but what about judges? Attorneys cannot submit anything close to the entire media violence literature or even the video game violence literature to the courts. Even the selection of articles to submit to the courts therefore presents a sort of translation challenge because lawyers become a filter of the relevant scientific literature. Attorneys must carefully decide which journal articles to include in the record, but there are many to choose from.

Various meta-analyses provide a sense of the breadth of the literature. A 1994 meta-analysis of television violence studies relied on 217 empirical studies.<sup>152</sup> A 2003 estimate put the number of media violence studies at about 300.<sup>153</sup> As for studies of video game violence specifically, Anderson relied on 44 studies in his 2004 meta-analysis<sup>154</sup> (a journal article discussed in several decisions<sup>155</sup>). A more recent 2010 meta-analysis co-authored by Anderson supersedes the 2004 study and includes 136 studies.<sup>156</sup> Counting literature reviews as relevant studies would add even more to the total. One could easily skim over the citations to this literature in the lower courts' opinions and conclude that there are only a handful of media violence studies worth reading. The district court cited five studies in *Entertainment Software Ass'n v. Hatch*, but it only discussed Anderson's 2004 meta-analysis at any length.<sup>157</sup> The Seventh Circuit in *Kendrick* cited and discussed only one article (which discusses two different research projects).<sup>158</sup> The Eighth

<sup>151</sup> See Douglas A. Gentile & Craig A. Anderson, *Violent Video Games: The Effects on Youth, and Public Policy Implications*, in HANDBOOK OF CHILDREN, CULTURE, AND VIOLENCE 225, 229 (Nancy E. Dowd et al. eds., 2006).

<sup>152</sup> Paik & Comstock, *supra* note 129, at 522.

<sup>153</sup> POTTER (2003), *supra* note 100, at 29.

<sup>154</sup> See Anderson (2004), *supra* note 7, at 115. The count of forty-four studies is more easily found in Craig A. Anderson, Akiko Shibuya, Nobuko Ichori, Edward L. Swing, Bard J. Bushman, Akira Sakamoto, Hannah R. Rothstein & Muniba Saleem, *Violent Video Game Effects on Aggression, Empathy, and Prosocial Behavior in Eastern and Western Countries: A Meta-Analytic Review*, 136 PSYCHOL. BULL. 151, 157 (2010).

<sup>155</sup> See *Video Software Dealers Ass'n v. Schwarzenegger*, 556 F.3d 950, 963 (9th Cir. 2009); *Entm't Software Ass'n v. Swanson*, 519 F.3d 768, 769–70 (8th Cir. 2008); *Video Software Dealers Ass'n v. Schwarzenegger*, No. C-05-04188, 2007 U.S. Dist. LEXIS 57472, at \*30–32 (N.D. Cal. Aug. 6, 2007); *Entm't Software Ass'n v. Hatch*, 443 F. Supp. 2d 1065, 1069–70 (D. Minn. 2006); *Entm't Software Ass'n v. Blagojevich*, 404 F. Supp. 2d 1051, 1061–62 (N.D. Ill. 2005). Two of these decisions lack full citations to the article, but it is clear what the courts were discussing.

<sup>156</sup> See Anderson et al., *supra* note 104, at 157.

<sup>157</sup> See *Hatch*, 443 F. Supp. 2d at 1069–70.

<sup>158</sup> See *Am. Amusement Mach. Ass'n v. Kendrick*, 244 F.3d 572, 578–79 (7th Cir. 2001) (discussing Craig A. Anderson & Karen E. Dill, *Video Games and Aggressive Thoughts*,

Circuit in *Interactive Digital Software Ass'n v. St. Louis County* referred to a "psychologist" who testified about "a recent study" before St. Louis County, Missouri, the defendant.<sup>159</sup> In *Entertainment Software Ass'n v. Swanson*, the Eighth Circuit mentioned Anderson's 2004 meta-analysis and the July 2000 *Joint Statement* referenced in the introduction to this Article. The Eighth Circuit noted the *Joint Statement's* reference to "well over 1000 studies," but the court gave no indication that one would really need to go beyond Anderson's meta-analysis to assess the literature.<sup>160</sup> The Ninth Circuit discussed three studies, including Anderson's 2004 meta-analysis, and a press release that describes some additional research.<sup>161</sup> No court was analyzing the entire literature on media violence generally or video game violence specifically *or anything close to it*.

It is difficult to imagine that such a slim literature review about a difficult research question could persuade someone to rule in favor of the government. Whether litigants could persuade a judge to read even a dozen studies before ruling on a motion for an injunction or summary judgment isn't clear. Whether the attorneys or judges would even think it's necessary is also not clear, but there is reason to think Caudill and LaRue's worry about science being idealized works against increasing the quantity of submissions to a court and the willingness of judges to read more. On an idealized view of science, one or two studies could potentially do the job. After all, if the studies represent *good* science, why would anyone need more? The submission of so few studies by some defendants in these cases could be caused either by an idealized view of science or by a belief that judges would not read more than a couple of studies. The opinion in *Hatch* is suggestive of both problems.

In *Hatch* the district court issued a permanent injunction, later affirmed by the Eighth Circuit, against the enforcement of the Minnesota Restricted Video Games Act of 2006.<sup>162</sup> The Act called for a fine of twenty-five dollars of anyone under seventeen who rents a video game rated M ("Mature") or AO ("Adults Only") by the ERSB.<sup>163</sup> The court said that strict scrutiny applied to the Act.<sup>164</sup> The state responded that its compelling state interest was to protect the psychological well-being of minors and to promote the moral and ethical development of

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*Feelings, and Behavior in the Laboratory and in Life*, 78 J. PERSONALITY & SOC. PSYCHOL. 772 (2000)). The court reports a slightly different title for the article.

<sup>159</sup> *Interactive Digital Software Ass'n v. St. Louis Cnty.*, 329 F.3d 954, 958–59 (8th Cir. 2003).

<sup>160</sup> See *Swanson*, 519 F.3d at 769–70.

<sup>161</sup> See *Video Software Dealers Ass'n v. Schwarzenegger*, 556 F.3d 950, 963–64 (9th Cir. 2009).

<sup>162</sup> See *Hatch*, 443 F. Supp. 2d at 1067.

<sup>163</sup> *Id.*

<sup>164</sup> *Id.* at 1068.

children.<sup>165</sup> The court required the state to provide “substantial, actual ‘empirical support’” for its claim that the Act would protect minors from psychological harm.<sup>166</sup> Minnesota submitted ten studies to the district court, including Anderson’s 2004 meta-analysis, and a list of the studies relied upon by Anderson. The state also submitted three other items, including the July 2000 *Joint Statement*, a resolution by the American Psychological Association, and a press release from the Indiana University School of Medicine.<sup>167</sup> In the district court opinion, the judge focused on Anderson’s 2004 meta-analysis and very briefly discussed and cited four of the other studies.<sup>168</sup> He did not cite or discuss the remaining five studies.

In deciding that Anderson’s meta-analysis was “far too slight to bear the weight of the State’s argument,”<sup>169</sup> the judge added in a footnote, “Dr. Anderson’s meta-analysis seems to suggest that one can take a number of studies, each of which he admits do not prove the proposition in question, and ‘stack them up’ until a collective proof emerges.”<sup>170</sup> It is fairly clear that the judge doubted the legitimacy of meta-analytic techniques, but meta-analyses are widely accepted for combining the results of multiple studies.<sup>171</sup> Unlike a traditional literature review, which provides a narrative summary of a literature, a meta-analysis provides a quantitative summary. Anderson’s 2004 meta-analysis is short. He assumed a general familiarity with meta-analytic techniques and with the literature on the effects of video game violence. Although Minnesota’s brief provided an explanation of a meta-analysis, it did so in only one sentence and without any references.<sup>172</sup> With no significant explanation of the rationale for a meta-analysis, the judge’s failure to see the importance of replicating or cross-validating the

<sup>165</sup> *Id.*

<sup>166</sup> *Id.* at 1069 (quoting *Interactive Digital Software Ass’n v. St. Louis Cnty.*, 329 F.3d 954, 959 (8th Cir. 2003)).

<sup>167</sup> See Exhibit List, *Entertainment Software Ass’n v. Hatch*, 443 F. Supp. 2d 1065 (D. Minn. 2006) (No. 06-2268).

<sup>168</sup> See *Hatch*, 443 F. Supp. 2d at 1070 n.2.

<sup>169</sup> *Id.* at 1069.

<sup>170</sup> *Id.* at 1069 n.1.

<sup>171</sup> See, e.g., T.D. Stanley, *Wheat from Chaff: Meta-Analysis as Quantitative Literature Review*, 15 J. ECON. PERSP. 131 (2001); MARK W. LIPSEY & DAVID B. WILSON, *PRACTICAL META-ANALYSIS* (2000); Dean A. Follmann & Michael A. Proschan, *Valid Inference in Random Effects Meta-Analysis*, 55 BIOMETRICS 732 (1999); MORTON HUNT, *HOW SCIENCE TAKES STOCK: THE STORY OF META-ANALYSIS* (1997).

<sup>172</sup> See Memorandum of Defendant in Opposition to Plaintiff’s Motion For a Temporary Restraining Order and/or a Preliminary Injunction at 21 n.27, *Entertainment Software Ass’n v. Hatch*, 443 F. Supp. 2d 1065 (D. Minn. 2006) (No. 06-2268) (“A meta-analysis of violent video games is particularly important, because while individual studies have often been criticized, a meta-analysis provides a comprehensive look at all existing studies on the subject and, therefore, provides a much stronger basis for the conclusion that exposure to violent video games leads to psychological harm.”).



findings of multiple individual studies is less surprising. The judge's footnote implied that Anderson took individual studies with non-findings and somehow summed all the zeros to one. It is highly unlikely that one study would prove to anyone's satisfaction a causal relationship between video game violence and aggression, but the judge implied that an individual study could do so—an idealized expectation of what one study could accomplish.

There were legitimate reasons for the court to find Anderson's meta-analysis inadequate to justify Minnesota's law, but these reasons are primarily related to limitations in the scientific literature or limitations in Anderson's presentation of the literature due to the nature of the expected audience for a journal article. The judge in *Hatch* may again have revealed an idealization of science when he described several limitations of Anderson's meta-analysis as "flaws."<sup>173</sup> He gave three examples,<sup>174</sup> one of which he apparently did not understand. As explained by the judge, Anderson acknowledged that "the body of violent video game literature is not sufficiently large to conduct a detailed meta-analysis of a specific feature."<sup>175</sup> It's not at all clear from the judge's opinion what Anderson meant here, including what specific features could not be analyzed. What Anderson was referring to was coding each study in the meta-analysis for various methodological weaknesses. With a large enough sample, the consequences of these individual weaknesses could have been analyzed, but these methodological weaknesses were the specific features Anderson could not analyze due to the small number of available studies. Anderson did acknowledge that his meta-analysis included studies "known to have potentially serious weaknesses."<sup>176</sup> As he could not study the particular weaknesses with any specificity, he divided the studies into two general categories: one with those studies that followed the best methodological practices and one with those that did not.<sup>177</sup> Additionally, Anderson identified two other limitations to his meta-analysis: first, that the available studies did not allow for good tests of video game violence effects by the ages of the players<sup>178</sup> and, second, that there was a lack of longitudinal studies.<sup>179</sup> These were indeed limitations to the meta-analysis, but they were caused by the limitations in the scientific literature. They were not *flaws* in the sense of mistakes or errors.

Judges are perhaps insufficiently exposed to scientific writings that

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<sup>173</sup> *Hatch*, 443 F. Supp. 2d at 1069 n.1.

<sup>174</sup> *See id.* at 1069.

<sup>175</sup> *Id.*

<sup>176</sup> Anderson (2004), *supra* note 7, at 118.

<sup>177</sup> *See id.* at 118–19.

<sup>178</sup> *See id.* at 117.

<sup>179</sup> *See id.* at 114–15.

are forthcoming about their weaknesses or limitations. Lawyers are not quick to highlight or even acknowledge the limitations in their arguments. Presumably, the authors of research reports prepared for purposes of litigation are not as forthcoming about the limitations of their work as the authors of academic publications. This may explain why the court in *Hatch* and the courts in other cases treated standard scholarly statements about the limitations of their work as something closer to admissions of failure.<sup>180</sup> The Ninth Circuit in *Schwarzenegger* referred to “readily admitted flaws” in Anderson’s research, and added that “most of the studies suffer from significant, admitted flaws in methodology as they relate to the State’s claimed interest.”<sup>181</sup> The qualifier in this last example—“as they relate to the State’s interest”—perhaps lessened the sense that the court thought the researchers made a mess of things, insofar as the Ninth Circuit tied the “flaws” to what the state wanted to accomplish rather than what the researchers wanted to accomplish. Reading that courts have found methodological “flaws” and that some courts have “rejected” this research,<sup>182</sup> however, suggests this research is largely junk science. Surely, *good* scientists wouldn’t produce research with these “flaws.”

Misunderstanding the whole point of a meta-analysis rendered the *Hatch* court’s consideration of one a waste of time, but even if the judge had not misunderstood the meta-analysis, it probably wasn’t very useful to him because of the way in which Anderson presented the research. Anderson’s 2004 meta-analysis did not include a usable summary of how violence was defined and operationalized across the forty-four studies, which is critical for assessing the value of the research. The likely reason for Anderson’s thin presentation is that a typical journal article is meant to communicate results to fellow researchers, not to lay people or courts. While extensive literature reviews are common in legal scholarship, researchers in other disciplines often keep these sections brief.<sup>183</sup> The district court would have needed to look elsewhere to really understand the literature summarized by Anderson’s meta-analysis.

Whether more studies or a more thorough analysis of the studies submitted by Minnesota would have helped is not clear. The judge did not even address several of the studies Minnesota submitted, and he said very little about the research beyond his brief discussion of Anderson’s

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<sup>180</sup> Cf. *Am. Amusement Mach. Ass’n v. Kendrick*, 115 F. Supp. 2d 943, 964 (S.D. Ind. 2000) (referring to “reasonable concessions”).

<sup>181</sup> *Video Software Dealers Ass’n v. Schwarzenegger*, 556 F.3d 950, 963, 964 (9th Cir. 2009).

<sup>182</sup> The Ninth Circuit noted that some courts had merely found Anderson’s research “insufficient.” *Id.* at 963.

<sup>183</sup> See, e.g., *Guidelines for Manuscripts*, AM. J. POL. SCI., [http://www.ajps.org/manu\\_guides.html](http://www.ajps.org/manu_guides.html) (last updated Aug. 9, 2011) (“Lengthy reviews of the literature are discouraged.”).

meta-analysis. In fairness to the judge, the opinion was a ruling on a permanent injunction with a hearing on July 11, 2006 followed by the publication of the opinion on July 31, 2006,<sup>184</sup> one day before the law was to take effect. There was little time to read and analyze a large number of studies. Moreover, Minnesota may have rendered any serious examination of the video game violence literature largely irrelevant when the state's attorneys offered a notable concession that the studies could *not* show a causal link between violent video games and the harms the state sought to prevent.<sup>185</sup>

The district court judge in *Hatch* was not unique in offering a very light review of the science. On appeal to the Eighth Circuit in *Hatch*, Minnesota continued to emphasize Anderson's meta-analysis, but also pointed to other studies.<sup>186</sup> The Eighth Circuit's opinion, however, referenced only the meta-analysis.<sup>187</sup> Providing courts with more studies will not accomplish anything if the judges don't read them. Some courts provided little analysis of what was submitted, instead deferring to what a previous court said. The district court in *Schwarzenegger*, for example, quoted the criticisms of Anderson's meta-analysis in *Hatch* without going much beyond them.<sup>188</sup> In *Granholm*, Michigan submitted some of the same evidence Illinois submitted in *Blagojevich*, and the district court mainly repeated the conclusions from *Blagojevich* without conducting much independent analysis.<sup>189</sup>

What would it take for a judge to truly understand the media violence literature generally or the video game violence literature specifically? Anderson concludes that the debate about whether media violence causes aggression should have been over by 1975. As a starting point for thinking about how much material a court would need for a reasonably informed judgment, we could look to the size of the literature at the time Anderson thinks a strong scientific consensus was (or should have been) established. Using Paik and Comstock's 1994 meta-analysis as a guide, which focuses only on television violence, there would have been approximately 150 studies through the end of 1975 with which to estimate television violence's effect on aggression.<sup>190</sup> The sheer quantity of studies available is only one

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<sup>184</sup> See *Entertainment Software Ass'n v. Hatch*, 443 F. Supp. 2d 1065, 1067 (D. Minn. 2006).

<sup>185</sup> See *id.* at 1069–70.

<sup>186</sup> See Appellant's Brief at 31–43, *Hatch v. Entm't Software Ass'n*, No. 06-3217 (8th Cir. Oct. 25, 2006).

<sup>187</sup> See *Entm't Software Ass'n v. Swanson*, 519 F.3d 768, 769–70 (8th Cir. 2008).

<sup>188</sup> See *Video Software Dealers Ass'n v. Schwarzenegger*, No. C-05-04188, 2007 U.S. Dist. LEXIS 57472, at \*31–32 (N.D. Cal. Aug. 6, 2007).

<sup>189</sup> *Entm't Software Ass'n v. Granholm*, 426 F. Supp. 2d 646, 652–54 (E.D. Mich. 2006).

<sup>190</sup> The estimate of 150 studies through 1975 is derived from Paik and Comstock as follows.

consideration for assessing the persuasiveness of the research literature's conclusions. Quality matters, too. But as a very rough benchmark for the number of studies needed to persuade Anderson, 150 studies is still not the full universe.

The relevant literature is larger than just the original empirical studies usable for a meta-analysis. As an example, randomized experiments with laboratory controls are the most effective means for demonstrating causal relationships,<sup>191</sup> but researchers often rely on proxy measures of aggression in the laboratory. One common measure involves a noise blast experiment where subjects who are first exposed to violent and non-violent stimuli participate in a competitive reaction time task on a computer.<sup>192</sup> Subjects are told they are competing against an unseen player and must try to click a button before their opponent.<sup>193</sup> The loser is punished with a noise blast with the decibel levels predetermined for those rounds where the subject loses.<sup>194</sup> For the rounds where the subject wins, he or she sets the decibel level (and potentially the duration) with which to punish the fictional opponent.<sup>195</sup> The researchers want to know whether those subjects first exposed to media violence select higher decibel levels.<sup>196</sup> Higher decibel levels are coded as more aggressive.<sup>197</sup>

For this measure of aggression to be of any value in assessing the impact of media violence, it is essential that the selection of decibel levels is an externally valid measure of aggression, meaning that it has a known relationship to some form of real-world aggression that we actually care about. A typical journal article is not going to rehash the reasons for thinking that the selection of decibel levels in these noise blast experiments is valid. In fact, even Anderson, Gentile, and Buckley's book-length treatment of video game violence simply asserts

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Start with the 168 studies dating through 1977 used by Hearold in a previous study. Subtract the 47 studies Paik and Comstock list in Appendix A, which they discarded for methodological reasons. Add the 34 studies they list in Appendix B, which Hearold omitted but Paik and Comstock include, but then subtract the 8 studies in Appendix B from 1976 and 1977. Thus:  $168 - 47 + 34 - 8 = 147$ , or approximately 150. The final number is an approximation because it may still include a few studies from 1976 or 1977. See Paik & Comstock, *supra* note 129, at 520, 521–22, 540–42.

<sup>191</sup> See, e.g., Zhiqiang Tan, *Regression and Weighting Methods for Causal Inference Using Instrumental Variables*, 101 J. AM. STAT. ASS'N 1607, 1607 (2006) (stating that "randomized experiments remain the gold standard for research"); Rose McDermott, *Experimental Methodology in Political Science*, 10 POL. ANALYSIS 325, 339 (2002) ("No other methodology can offer such strong support for the causal inferences that experiments allow.").

<sup>192</sup> See ANDERSON, GENTILE & BUCKLEY, *supra* note 4, at 62–63; Carnagey & Anderson, *supra* note 142, at 886.

<sup>193</sup> See Carnagey & Anderson, *supra* note 142, at 886.

<sup>194</sup> See *id.*

<sup>195</sup> See *id.*

<sup>196</sup> See *id.* at 887.

<sup>197</sup> See *id.*; ANDERSON, GENTILE & BUCKLEY, *supra* note 4, at 62.

without discussion that this measure has been validated.<sup>198</sup> As it is not obvious that this measure *is* valid, it is difficult to be persuaded by Anderson, Gentile, and Buckley's own noise-blast experiment without tracking down the many articles that review the arguments for and against these types of measures. As a matter of presentation, it's notable that the authors would rest on an assertion for such a critical point in a book aimed at a broader audience than just other media researchers. A few paragraphs would certainly be helpful, though still not enough to come to a firm conclusion. The literature on this subtopic alone involves more studies than any court considered at any length in these cases.<sup>199</sup> Articles on the validity of these proxy measures therefore add even more material to a substantial number of publications that must somehow be distilled down into a manageable quantity for the courts.

While it's far from clear how much material should be submitted to a court when the goal is for the court to make a reasonably informed decision about the media violence literature, the quantity is more than the courts discussed. While I do not think anyone would need to read the entire media violence literature to fairly assess its conclusions, it is startling that some courts attempted to assess it with only a single meta-analysis. Perhaps a plausible number is somewhere between one and two dozen publications, including original research studies, literature reviews, and meta-analyses,<sup>200</sup> but this requires attorneys to carefully

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<sup>198</sup> See ANDERSON, GENTILE & BUCKLEY, *supra* note 4, at 62.

<sup>199</sup> See, e.g., ROBERT A. BARON & DEBORAH R. RICHARDSON, HUMAN AGGRESSION 58–85 (2d ed. 1994); Craig A. Anderson & Brad J. Bushman, *External Validity of "Trivial" Experiments: The Case of Laboratory Aggression*, 1 REV. GEN. PSYCHOL. 19 (1997); Craig A. Anderson, James J. Lindsay & Brad J. Bushman, *Research in the Psychological Laboratory: Truth or Triviality?*, 8 CURRENT DIRECTIONS IN PSYCHOL. SCI. 3 (1999); Sandy Bernstein, Deborah Richardson & Georgina Hammock, *Convergent and Discriminant Validity of the Taylor and Buss Measures of Physical Aggression*, 13 AGGRESSIVE BEHAV. 15 (1987); Michael Carlson et al., *Evidence for a General Construct of Aggression*, 15 PERSONALITY & SOC. PSYCHOL. BULL. 377 (1989); Christopher J. Ferguson & Stephanie M. Rueda, *Examining the Validity of the Modified Taylor Competitive Reaction Time Test of Aggression*, 5 J. EXPERIMENTAL CRIMINOLOGY 121 (2009); Peter R. Giancola & Stephen T. Chermack, *Construct Validity of Laboratory Aggression Paradigms: A Response to Tedeschi and Quigley (1996)*, 3 AGGRESSION & VIOLENT BEHAV. 237 (1998); Peter R. Giancola & Amos Zeichner, *Construct Validity of a Competitive Reaction-Time Aggression Paradigm*, 21 AGGRESSIVE BEHAV. 199 (1995); Dominik Ritter & Mike Eslea, *Hot Sauce, Toy Guns, and Graffiti: A Critical Account of Current Laboratory Aggression Paradigms*, 31 AGGRESSIVE BEHAV. 407 (2005); James T. Tedeschi & Brian M. Quigley, *A Further Comment on the Construct Validity of Laboratory Aggression Paradigms: A Response to Giancola and Chermack*, 5 AGGRESSION & VIOLENT BEHAV. 127 (2000); James T. Tedeschi & Brian M. Quigley, *Limitations of Laboratory Paradigms for Studying Aggression*, 1 AGGRESSION & VIOLENT BEHAV. 163 (1996).

<sup>200</sup> As a relevant comparison, the amicus brief of Senator Leland Yee filed in *Brown v. Entertainment Merchants Ass'n*, 131 S. Ct. 2729 (2011) cites about a dozen and a half studies (depending on what one counts as relevant for these purposes). See Brief of Amicus Curiae of California State Senator Leland Y. Yee, Ph.D, et al. at v–viii, *Brown v. Entm't Merchs. Ass'n*,

select publications from a sizeable collection of relevant material. Attorneys probably cannot deliver several dozen studies to a court and expect a judge to digest them, but they also cannot haphazardly select what they will deliver. Careful and informed judgment is needed.

### 3. Explaining the Science

As one recognizes the challenge of selecting and explaining more and more of the scientific literature, the problem of who will do the translating grows too. Lawyers can easily photocopy scientific studies, but when it comes time to explain the scientific research, the *Annex Books* problem arises.<sup>201</sup> As that case illustrates, even basic questions can pose a challenge for lawyers, but at least the attorney in *Annex Books* knew what he did not know.

In the video game violence cases, one of the most striking examples of an attorney's failure to properly explain the scientific research comes from the Eighth Circuit. In *Interactive Digital Software Ass'n v. St. Louis County* (2003), the Eighth Circuit required the County to demonstrate that the harm from video game violence on the psychological health of minors was "real" and "not merely conjectural."<sup>202</sup> The court added that the County needed "empirical support for its belief that 'violent' video games *cause* psychological harm to minors."<sup>203</sup> This supporting evidence needed to be "substantial."<sup>204</sup> At no point did the court take the extreme position that scientific *certainty* was required, even certainty in the ordinary sense of the word, which probably means something like no serious doubt. However, in *Entertainment Software Ass'n v. Swanson* (2008), the next video game violence case before the Eighth Circuit, the *Interactive Digital* standard was transformed into one of scientific certainty. The reason for this transformation appears to be that the attorneys for the State of Minnesota misunderstood the scientific literature and then just assumed their way into a higher standard than the one they started with. The following exchange between an assistant attorney general representing Minnesota and the Eighth Circuit is from the oral argument in *Swanson*:

ATTORNEY: Well, this Court in *Interactive Digital Software Association* recognized that the State's compelling interests in protecting children from psychological harm are compelling at least

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131 S. Ct. 2729 (2011) (No. 08-1448), 2010 WL 2937557 at \*v–viii.

<sup>201</sup> *Annex Books, Inc. v. City of Indianapolis*, 581 F.3d 460 (7th Cir. 2009); see *supra* notes 18–34 and accompanying text.

<sup>202</sup> *Interactive Digital Software Ass'n v. St. Louis Cnty.*, 329 F.3d 954, 958 (8th Cir. 2003).

<sup>203</sup> *Id.* at 959 (emphasis added).

<sup>204</sup> *Id.*

in the abstract, but with respect to video games, the State needs to provide substantial supporting evidence of the harm from those games.

COURT: What did the district court find in this case?

ATTORNEY: In this case the district court improperly decided that the State must provide evidence of a scientifically certain causal relationship that exposure to video games causes harm to minors in order for its interests to be compelling. The correct standard that the State must meet to demonstrate that its interests are compelling is that the legislature drew reasonable inferences based on substantial evidence that violent video games are harmful to minors' psychological well-being and moral and ethical development.

COURT: Go back to Judge Smith's first question. What was our holding in our *Interactive* case? Did our court hold that the State may constitutionally restrict access to these violent videos?

ATTORNEY: The court did hold that the State may constitutionally restrict that access if they provide substantial supporting evidence of harm.

COURT: What about your opponent's argument that no court has ever recognized that?

ATTORNEY: They—my opponent's argument is that the substantial evidence required to meet that standard requires a causal link between violent video games and harm to minors. It's the State's position that a causal link is not required.

COURT: The State's relying on the Anderson studies? Is that . . .

ATTORNEY: Among others that were produced before the district court and are now in the record before this court. The primary Anderson study [2004] that the State relies on is an updated meta-analysis of his previous study that was before this court in the *Interactive Digital Software* case, but that study had the benefit of relying on additional studies that were performed after the panel decision in *Interactive Digital Software Association*.

COURT: And what was the district court's reaction to those studies?

ATTORNEY: The district court found that they were insufficient because they did not establish a causal relationship, but again, it's the State's position that a causal relationship is not required, and if the studies—

COURT: What is it the State argues? What is the showing that is sufficient?

ATTORNEY: Well, in light of the different constitutional standards applicable to minors, the State believes that substantial evidence demonstrating a strong correlation which the State has presented in this case is sufficient to sustain the restriction, and a strict causal relationship should not be required. The Supreme Court has recognized that the quantum of empirical evidence that is required varies depending on the novelty and plausibility of the justification raised, and its past jurisprudence as to the First Amendment rights of minors have shown that it is neither novel nor implausible for the State to restrict minors' access to materials that are reasonably believed to be harmful to them.

COURT: But you agree—I heard you say that there is a slight trade-off, but you agree it has to be substantial supporting evidence?

ATTORNEY: Of harm, yes, but not that that harm need to be established to a scientific certainty, *which is what requiring a cause and effect relationship does*. Here we have substantial supporting evidence of a strong correlation that exposure to violent video games causes increased aggression and desensitization to violence in minors[.]<sup>205</sup>

The notion that causation can only be sensibly discussed in situations of certainty makes little sense, either in everyday speech or in scientific speech. Of note is that these comments were not ill-considered answers offered during the heat of oral argument. Similar arguments were made in Minnesota's brief.<sup>206</sup>

Minnesota's position, presumably chosen by the state's attorneys, was that one can speak only of correlations until the evidence rises to the level of certainty, at which point one may then speak of causation. This view may result from confusion about two separate questions: First, what counts as causal evidence? Second, how certain are the conclusions based on this evidence? Scientists are sometimes accused of being "so wary of the warning that 'correlation is not causation' that they will not state causal hypotheses or draw causal inferences" even "when causality is the real subject of investigation."<sup>207</sup> Outside of randomized experiments, statisticians are particularly allergic to causal statements.<sup>208</sup> Professor Judea Pearl suggests the problem is serious: "It

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<sup>205</sup> Oral Argument at 1:23, *Entm't Software Ass'n v. Swanson*, No. 06-3217 (8th Cir. Feb. 12, 2007) (emphasis added).

<sup>206</sup> See Appellant's Brief at 27–30, *Hatch v. Entm't Software Ass'n*, No. 06-3217 (8th Cir. Oct. 25, 2006).

<sup>207</sup> GARY KING ET AL., *DESIGNING SOCIAL INQUIRY* 75–76 (1994).

<sup>208</sup> See PEARL, *supra* note 51, at 340 (describing randomized experiments as "the one and only causal concept permitted in mainstream statistics"); NANCY CARTWRIGHT, *HUNTING CAUSES AND USING THEM* 198 (2007) ("Econometricians in my experience hate making assumptions, so much so that they often give up altogether on making causal inferences about the world."); D.R.



is an embarrassing yet inescapable fact that probability theory, the official mathematical language of many empirical sciences, does not permit us to express sentences such as ‘Mud does not cause rain[.]’<sup>209</sup> Minnesota’s attorneys may have mistaken a reluctance to talk about causation by some academics or scientists for the belief that causation can only be properly discussed under conditions of certainty. Many scientists, however, clearly acknowledge their interest in causal explanation, and contrary to the position of the State of Minnesota, scientists can discuss causation even under conditions of uncertainty.<sup>210</sup> Indeed, scientists have little choice but to do so. Many causal explanations are “plagued with uncertainty.”<sup>211</sup> Evidence of correlation does not necessarily indicate causation, but evidence of causation does not necessarily indicate certainty either.

There are two general ways in which we might speak of certainty that are relevant here. Scientists may speak of uncertainty about a conclusion in a practical or pragmatic sense. Even conclusions supported by experiments may remain uncertain in this sense, but this kind of uncertainty can potentially be overcome, depending on the quality of the evidence.<sup>212</sup> Scientific conclusions can be *certain enough* to be useful. The level of certainty needed varies depending on the circumstances. At the same time, scientists can concede that even strongly supported scientific conclusions are, at the end of the day, always subject to revision and therefore uncertain in a more fundamental sense. The “fundamental problem of causal inference” is one of uncertainty: “no matter how perfect the research design, no

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Cox & Nanny Wermuth, *Causality: A Statistical View*, 72 INT’L STAT. REV. 285, 285 (2004) (“Statisticians concerned with the interpretation of their analyses have implicitly always been interested in causality even if they have been sparing in the use of the word.”); Paul W. Holland, *Statistics and Causal Inference*, 81 J. AM. STAT. ASS’N 945, 945 (1986) (“The reaction of many statisticians when confronted with the possibility that their profession might contribute to a discussion of causation is immediately to deny that there is any such possibility.”).

<sup>209</sup> PEARL, *supra* note 51, at 134.

<sup>210</sup> See, e.g., Stanley B. Prusiner, *A Unifying Role for Prions in Neurodegenerative Diseases*, SCIENCE, June 22, 2012, at 1511, 1511 (“In the past decade, there has been renewed interest in the possibility that the proteins *causing* neurodegeneration are all prions[.]”) (emphasis added); NEIL A. CAMPBELL & JANE B. REECE, BIOLOGY 20 (7th ed. 2005) (“The observations and inductions of discovery science engage inquisitive minds to seek natural causes and explanations for those observations. What *causes* the diversification of finches on the Galápagos Islands? What *causes* the roots of a plant seedling to grow downward and the leaf-bearing shoot to grow upward?”).

<sup>211</sup> PEARL, *supra* note 51, at 1.

<sup>212</sup> See, e.g., STEVEN SLOMAN, CAUSAL MODELS 64 (2005); Ronald Fisher, *Cigarettes, Cancer, and Statistics*, 2 CENTENNIAL REV. 151, 153 (1958) (claiming that “by taking certain specific precautions, entirely unchallengeable conclusions can be obtained in the experimental field,” but also emphasizing the need for replication “in order to add precision to our results by diminishing the error to which they are subject, and . . . as supplying the only means of the estimation of such error”).

matter how much data we collect, no matter how perceptive the observers, no matter how diligent the research assistants, and no matter how much experimental control we have, we will never know a causal inference for certain.”<sup>213</sup> This kind of uncertainty cannot be overcome. As some uncertainty always remains, uncertainty of no practical concern today might become a concern tomorrow when new situations or new problems arise.

Whatever Minnesota meant by the need for certainty, either certainty in a practical or a more fundamental sense, the Eighth Circuit did not say there is a need for certainty in *Interactive Digital*. The Eighth Circuit did say it in *Swanson*, however, and the court apparently said it because of the arguments made by Minnesota. Specifically, *Interactive Digital* states that substantial evidence of causation is required.<sup>214</sup> Minnesota said this means scientific certainty. In *Swanson* the Eighth Circuit accepted Minnesota’s re-description of *Interactive Digital* without criticism or discussion. As a result, under *Swanson* the evidence must establish “statistical certainty of causation” and provide “incontrovertible proof of a causal relationship.”<sup>215</sup> The Eighth Circuit conceded its standard “may reflect a refined estrangement from reality,” but claimed the standard was required under *Interactive Digital*.<sup>216</sup> Perhaps due to a desire to avoid a similar “estrangement from reality,” the Ninth Circuit explicitly rejected a standard of “scientific certainty” in *Schwarzenegger*.<sup>217</sup>

Requiring practical certainty may be a good legal standard when First Amendment freedoms are at stake, but lawyers usually do not try to weaken their own positions. It’s unlikely that Minnesota’s attorneys intentionally did so. It’s more likely that they were confusing issues of correlation, causation, and certainty. Attorneys, as the middle-men and -women between scientists and judges, are likely to be poor translators. Minnesota actually increased its own burden by making the unnecessary argument that causal evidence is equivalent to scientifically certain evidence. Courts will probably do a better job of interpreting scientific information when the attorneys do less of the interpreting. One way for lawyers to do less is for the experts to do more, but this means the experts need to talk directly to the judges.

Of all the written decisions in these video game violence cases, the most thorough one (relatively speaking) is the decision written by Judge

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<sup>213</sup> KING ET AL., *supra* note 207, at 79. See also PEARL, *supra* note 51, at 60; Holland, *supra* note 208, at 947; KARL PEARSON, *THE GRAMMAR OF SCIENCE* 113 (Adam & Charles Black 2d ed. 1900).

<sup>214</sup> See *Interactive Digital Software Ass’n v. St. Louis Cnty.*, 329 F.3d 954, 959 (8th Cir. 2003).

<sup>215</sup> *Entm’t Software Ass’n v. Swanson*, 519 F.3d 768, 772 (8th Cir. 2008).

<sup>216</sup> *Id.*

<sup>217</sup> *Video Software Dealers Ass’n v. Schwarzenegger*, 556 F.3d 950, 964 (9th Cir. 2009).

Kennelly of the Northern District of Illinois in *Entertainment Software Ass'n v. Blagojevich*. While his analysis is not without limitations (and while Craig Anderson, Illinois' lead witness, would no doubt disagree with many of Kennelly's conclusions), Kennelly gave serious consideration to the scientific evidence presented to him. One plausible reason why his opinion is more thorough is that Kennelly presided over a trial. He listened to extensive expert testimony and made findings of fact. Anderson's direct and cross-examinations, for example, run over 100 pages in the trial transcript. Also of potential importance is that he made use of the opportunity to ask questions of the experts. Kennelly asked questions during the direct and cross-examination of Anderson, and he asked additional questions after Anderson's cross-examination.<sup>218</sup> Some of his questions were very basic ones about scientific research in general, such as the meanings of falsification and reliability.<sup>219</sup> The meaning of falsification as applied to scientific research is apparently unfamiliar to many judges.<sup>220</sup> Basic questions may not be answered by journal articles written for a more expert audience, and lawyers may not be able to answer even basic questions about the research they provide to a court. The opportunity to obtain answers to these questions could be critical for understanding the scientific evidence.

Judge Kennelly also asked some basic but essential questions about the video game violence literature in particular. He raised the question, for example, of the importance of the context in which violence occurs, asking whether a "horribly violent scene that goes on for about half an hour" at the beginning of the movie *Saving Private Ryan* is different than "a Van Damme movie where everybody is just kicking the heck out of each other all the time?"<sup>221</sup> (Anderson replied, "yes," but also that these findings "aren't as solid as the basic

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<sup>218</sup> See Transcript of Proceedings at 212, *Entm't Software Ass'n v. Blagojevich*, No. 05-4265 (N.D. Ill. Nov. 14, 2005) (beginning the direct examination of Anderson); Transcript of Proceedings, *Blagojevich*, No. 05-4265, *supra* note 38, at 225 (continuing the direct examination of Anderson); *id.* at 274 (beginning the cross-examination of Anderson); *id.* at 336-50 (asking additional questions of Anderson after the cross-examination).

<sup>219</sup> See Transcript of Proceedings, *Blagojevich*, No. 05-4265, *supra* note 38, at 249, 342-43.

<sup>220</sup> See Gatowski et al., *supra* note 36, at 444-45 (describing how only six percent of state court judges in a survey clearly understood the meaning of falsification, thirty-five percent clearly did not understand its meaning, and the remaining judges had a questionable understanding of its meaning). In *Daubert*, Chief Justice Rehnquist said, "I defer to no one in my confidence in federal judges; but I am at a loss to know what is meant when it is said that the scientific status of a theory depends on its 'falsifiability,' and I suspect some of them will be, too." *Daubert v. Merrell Dow Pharms.*, 509 U.S. 579, 600 (Rehnquist, C.J., concurring in part and dissenting in part).

<sup>221</sup> Transcript of Proceedings, *Blagojevich*, No. 05-4265 (Nov. 15, 2005), *supra* note 38, at 348. Judge Kennelly did not mention the title *Saving Private Ryan*, but it is clear from the context what he meant.

findings.”<sup>222</sup>)

Judge Kennelly also asked about the validity of the noise-blast studies, which illustrates another benefit of a live interaction with an expert.<sup>223</sup> Experts do not always communicate well with other experts, often relying, for example, on unexplained statistical jargon.<sup>224</sup> Experts are even less likely to explain things in terms non-experts will understand, especially in journal articles with narrow readerships. Sometimes they don’t even see the need to make their research comprehensible to non-experts despite its clear public policy implications. In an article on the validity of laboratory measures of aggression, including the noise blast measure, Craig Anderson, James Lindsay, and Brad Bushman note that it is easy to understand why non-experts doubt the validity of these measures, yet they seem to dismiss the need to explain to non-experts why they consider these measures valid:

It is easy to see why nonexperts frequently charge that lab studies are trivial, artificial, and pointless, and easy to ignore such complaints as reflections of ignorance. But when the charge comes from experts—other psychological researchers who presumably share goals, training, and perspective—a thoughtful response is required.<sup>225</sup>

This sentiment could explain why Anderson, Gentile, and Buckley’s book simply asserts that the measure of aggression tied to noise blasts is valid without any explanation, but it seems uncharacteristic, at least for some of these researchers, to question the need for clearer communication with non-experts. Media violence researchers are certainly free to pursue knowledge for its own sake and just talk amongst themselves, but if they wish to contribute their findings to discussions of public policy, then “a thoughtful response” to the doubts and questions of even laypersons is required. Anderson in particular has stated in multiple (co-authored) places that he sees a role for himself and other scientists to communicate with the public, including courts.<sup>226</sup> Bushman and Anderson comment in one article on the failure of the research community to communicate its findings to the public, prodding researchers to “realize that the role of disseminating insights gained

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<sup>222</sup> *Id.*

<sup>223</sup> *See id.* at 243–44, 339–40.

<sup>224</sup> *See* Gary King et al., *Making the Most of Statistical Analyses: Improving Interpretation and Presentation*, 44 AM. J. POL. SCI. 347 (2000).

<sup>225</sup> Anderson, Lindsay & Bushman, *supra* note 199, at 4.

<sup>226</sup> *See* Douglas Gentile & Craig Anderson, *Don’t Read More into the Supreme Court’s Ruling on the California Video Game Law*, NEWSWISE (June 30, 2011 11:40 AM), <http://www.newswise.com/articles/don-t-read-more-into-the-supreme-court-s-ruling-on-the-california-video-game-law>; Gentile, Saleem & Anderson, *supra* note 5, at 45.

from their research is a part of their job[.]”<sup>227</sup> Explaining the validity of laboratory measures should not be an exception.

Live testimony offers an opportunity to prompt experts to explain things in a manner accessible to non-experts when, for whatever reason, they might not otherwise do so. Judge Kennelly’s exchange with Anderson on the validity of the noise blast studies was relatively brief, but it went beyond the assertions found in the book by Anderson, Gentile, and Buckley and the assertions found in various journal articles. It also led Kennelly to ask Anderson to what extent the media violence literature relies on proxy measures as opposed to more direct measures of aggression, that is, ones where the subjects’ exposure to media violence in the laboratory is followed by acts of physical aggression.<sup>228</sup> This interaction was an improvement over reading the simple assertions found in many publications.

As an aid to the court, expert testimony is only sometimes available. It is available to a district court when conducting an evidentiary hearing on a request for a preliminary injunction.<sup>229</sup> It does not appear, however, that any of the district court judges who ruled on a motion for a preliminary injunction in the video game violence cases heard live expert testimony about the scientific evidence.<sup>230</sup> In theory, live testimony is also available when a court is ruling on a summary judgment motion, but live testimony is rare in this circumstance as it might lead a court to make inappropriate determinations of witness credibility.<sup>231</sup> A bench trial like the one in *Blagojevich* of course allows for live expert testimony, just as jury trials do. Appellate court judges, on the other hand, are inevitably at an institutional disadvantage in terms of direct access to the experts because live proceedings in appellate courts, in the form of oral arguments, involve lawyers and

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<sup>227</sup> Brad J. Bushman & Craig A. Anderson, *Media Violence and the American Public*, 56 AM. PSYCHOLOGIST 477, 487 (2001).

<sup>228</sup> See Transcript of Proceedings, *Blagojevich*, No. 05-4265 (Nov. 15, 2005), *supra* note 38, at 340–42.

<sup>229</sup> See Fed. R. Civ. P. 43(c), 65(a).

<sup>230</sup> See Minute Entry re: Motion for a Preliminary Injunction, *Entm’t Software Ass’n v. Foti*, No. 06-431 (M.D. La. June 30, 2006) (recording that counsel presented arguments and filed exhibits at the evidentiary hearing on a motion for a preliminary injunction); Civil Minutes re: Plaintiff’s Motion for a Preliminary Injunction, *Video Software Dealers Ass’n v. Schwarzenegger*, No. 05-4188 (N.D. Cal. Dec. 9, 2005) (“The Court heard oral argument from both sides and the Court took this matter under submission.”); Order Granting Plaintiff’s Motion for Preliminary Injunction, *Video Software Dealers Ass’n v. Maleng*, No. 03-1245 (W.D. Wash. July 10, 2003) (describing the evidence submitted as “memoranda, declarations, and exhibits”). Cf. *Am. Amusement Mach. Ass’n v. Kendrick*, 115 F. Supp. 2d 943, 948 (S.D. Ind. 2000) (describing testimony at the hearing on plaintiff’s motion for a preliminary injunction as including an art director from a video game company).

<sup>231</sup> See *Seamons v. Snow*, 206 F.3d 1021, 1025–26 (10th Cir. 2000); *Stewart v. RCA Corp.*, 790 F.2d 624, 628–29 (7th Cir. 1986).

judges, not witnesses. This puts the burden on the parties at the district-court level to generate an adequate record for any subsequent appeals.

### B. *The Supreme Court*

Although the lower courts agreed that the various attempts of the government defendants to regulate minors' access to violent video games were unconstitutional, the Supreme Court nevertheless took up the issue in *Brown v. Entertainment Merchants Ass'n*.<sup>232</sup> *Brown* involved California's violent video game law, Assembly Bill 1179. The principal sponsor of California's violent video game law was Assembly Member—now State Senator—Leland Yee. After Senator Joseph Lieberman, Senator Yee, who holds a Ph.D. in child psychology,<sup>233</sup> is probably the most prominent legislative critic of violent video games.<sup>234</sup> After sponsoring related legislation about violent video games the previous year,<sup>235</sup> Lee introduced A.B. 450 in the California Assembly in February 2005 and in September 2005 moved the language in A.B. 450 to A.B. 1179.<sup>236</sup> Later in September, A.B. 1179 passed by a vote of 66 to 7 in the Assembly and a vote of 22 to 9 in the Senate. Governor Arnold Schwarzenegger approved the bill on October 7, 2005. Before the effective date of the law on January 1, 2006, the United States District Court for the Northern District of California enjoined the enforcement of the Act.<sup>237</sup> The Ninth Circuit and then the Supreme Court both affirmed.<sup>238</sup>

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<sup>232</sup> See *Schwarzenegger v. Entm't Merchs. Ass'n*, 130 S. Ct. 2398 (2010) (granting the petition for a writ of certiorari), *sub nom.* *Brown v. Entm't Merchs. Ass'n*, 131 S. Ct. 2729 (2011).

<sup>233</sup> See Larry Copeland, *Battle over Violent Video Games Heating Up*, USA TODAY, Jan. 29, 2004, at 3A.

<sup>234</sup> Lieberman has been regularly involved in the issue. See, e.g., Jose Antonio Vargas, *On Capitol Hill: Blame Games*, WASH. POST, Dec. 17, 2005, at C5 ("It has become an annual ritual for the wide-smiled Sen. Joseph Lieberman (D-Conn.), who for many video gamers is the grinch who every year tries to steal Christmas. Another year, another press conference, another speech from the bully pulpit about the dangers of 'violent video games' . . .").

<sup>235</sup> See Assemb. B. 1792, 2003–04 Reg. Sess. (Cal. 2004) (introduced as a bill to regulate the sale, rental, and distribution, and exhibition of violent video games); Assemb. B. 1793, 2003–04 Reg. Sess. (Cal. 2004) (approved as a bill requiring video game retailers to post information about "a" video game rating system). See also Cal. Bus. & Prof. Code § 20650 (2010) (requiring the posting of consumer information about the video game rating system); Press Release, Violent Video Game Legislation Passes Committee (Apr. 27, 2004) ("AB 1792 could not garner enough support to receive the necessary 7 votes for passage. AB 1793 as amended, now calls for video game retailers to display games with an "Adult Only" rating separate from all other games.").

<sup>236</sup> Assemb. B. 1179, 2005–06 Reg. Sess. (Cal. 2005). The content of Assembly Bill 1179 originally appeared in Assembly Bill 450, 2005–06 Reg. Sess. (Cal. 2006). See Appellants' Opening Brief, *supra* note 115, at 4–5, ("Assembly Bill 1179 was gutted and amended, and replaced with the language of Assembly Bill 450.").

<sup>237</sup> See *Video Software Dealers Ass'n v. Schwarzenegger*, No. 05-4188, 2007 U.S. Dist. LEXIS 57472 (N.D. Cal. Aug. 6, 2007).

<sup>238</sup> See *Video Software Dealers Ass'n v. Schwarzenegger*, 556 F.3d 950 (9th Cir. 2009), *aff'd sub nom.* *Brown v. Entm't Merchs. Ass'n*, 131 S. Ct. 2729 (2011).

California's Act prohibited selling or renting violent video games to minors and required these games to be labeled "18." Violators were to be fined up to \$1,000.<sup>239</sup> The Act defined a violent video game as one where a player could engage in "killing, maiming, dismembering, or sexually assaulting an image of a human being" and further fit one of two additional definitions. The first was that "[a] reasonable person, considering the game as a whole, would find [it] appeals to a deviant or morbid interest of minors," that it "is patently offensive to prevailing standards in the community as to what is suitable for minors," and that it lacks "serious literary, artistic, political, or scientific value for minors."<sup>240</sup> The second, alternative definition was that the game allowed the player to "inflict serious injury upon images of human beings or characters with substantially human characteristics in a manner which is especially heinous, cruel, or depraved in that it involves torture or serious physical abuse to the victim."<sup>241</sup> The Act further defined "heinous," "cruel," "depraved," "torture," and "serious physical abuse."<sup>242</sup> California conceded this second definition was unconstitutionally broad for not excluding material with some redeeming value for minors,<sup>243</sup> leaving the first definition for consideration by the Supreme Court.<sup>244</sup> As he did in the Ninth Circuit, Deputy Attorney General Morazzini disclaimed during oral argument California's interest in preventing violent behavior, but California nevertheless asserted in its brief an interest in preventing aggressive behavior.<sup>245</sup>

Justice Scalia's opinion for the majority of the Court confirmed the various decisions of the lower courts that refused to apply the *Ginsberg* variable obscenity standard to violence. The Court did not discuss a potential problem with the Act under *Brandenburg*, but the Court agreed that the Act was subject to strict scrutiny: "Because the Act imposes a restriction on the content of protected speech, it is invalid unless California can demonstrate that it passes strict scrutiny—that is,

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<sup>239</sup> See Assemb. B. 1179, 2005–06 Reg. Sess. (Cal. 2005); Cal. Civ. Code §§ 1746–1746.5 (2010).

<sup>240</sup> Cal. Civ. Code § 1746(d)(1)(A).

<sup>241</sup> *Id.* at § 1746(d)(1)(B).

<sup>242</sup> See *id.* at § 1746(d)(2).

<sup>243</sup> The state's brief actually conceded that the second definition "may" be unconstitutional. See Appellants' Opening Brief, *supra* note 115, at 4 n.1. The Ninth Circuit treated this statement as a concession that the second definition was unconstitutional. See *Schwarzenegger*, 556 F.3d at 954 n.5. The Supreme Court followed the Ninth Circuit's lead on this point. See *Brown*, 131 S. Ct. at 2744 n.2 (Alito, J., concurring) (discussing the second definition).

<sup>244</sup> See *Brown*, 131 S. Ct. at 2732–33.

<sup>245</sup> See Transcript of Oral Argument at 18–19, *Brown v. Entm't Merchs. Ass'n*, 131 S. Ct. 2729 (2011) (No. 08-1448); Petitioners' Brief at 41, *Brown*, 131 S. Ct. 2729 (No. 08-1448), 2010 WL 2787546 at \*41.

unless it is justified by a compelling government interest and is narrowly drawn to serve that interest.”<sup>246</sup> Despite the concessions about California’s lack of interest in preventing violent or aggressive behavior, the Court allowed for the possibility that California could prevail if it could demonstrate that violent video games cause aggressive behavior.<sup>247</sup> Thus, California was left to defend the Act with the scientific evidence. Related to this requirement, the Court clarified that applying strict scrutiny in this context does not mean deferring to the predictive judgments of a legislature that are based on substantial evidence.<sup>248</sup>

At the beginning of its brief, California described the substantial effort the legislature put into reviewing the scientific evidence and the conclusions it reached. Oddly, California began with an implicit concession that it could only show a correlation between video game violence and aggression:

[T]he Legislature considered numerous studies, peer-reviewed articles, and reports from social scientists and medical associations that establish a *correlation* between playing violent video games and an increase in aggressive thoughts and behavior, antisocial behavior, and desensitization to violence in both minors and adults.<sup>249</sup>

Later in its brief, California concluded the section focusing on the scientific evidence with a statement that “the studies considered by the Legislature conclusively establish a *connection* between playing violent video games and increases in aggressive behavior in children.”<sup>250</sup>

According to California, the Ninth Circuit erred by requiring more than correlational evidence. In its petition for a writ of certiorari and its brief, California used phrases like “direct causal link,” “proof of direct causation,” and “a direct causal nexus” to describe what it should *not* be required to show, but what it claimed the Ninth Circuit demanded it show.<sup>251</sup> The Ninth Circuit did indeed consider California’s evidence

<sup>246</sup> *Brown*, 131 S. Ct. at 2738; see also *id.* at 2742.

<sup>247</sup> See *id.* at 2739 (“California relies primarily on the research of Dr. Craig Anderson and a few other research psychologists whose studies purport to show a connection between exposure to violent video games and harmful effects on children. These studies have been rejected by every court to consider them, and with good reason: They do not prove that violent video games *cause* minors to *act* aggressively (which would at least be a beginning).”).

<sup>248</sup> See *id.* at 2738–39.

<sup>249</sup> Petitioners’ Brief at 3, *Brown*, 131 S. Ct. 2729 (No. 08-1448), 2010 WL 2787546 at \*3 (emphasis added).

<sup>250</sup> *Id.* at 56 (emphasis added).

<sup>251</sup> See Petition for a Writ of Certiorari at i, *Schwarzenegger v. Entm’t Merchs. Ass’n*, No. 08-1448 (May 19, 2009) (“direct causal link”); *id.* at iii (“direct causation”); *id.* at 4 (“sufficient direct causal connection”); *id.* at 12 (“direct causal link”); *id.* at 13 (“direct causation”); Petitioners’ Brief at i, *Brown*, 131 S. Ct. 2729 (No. 08-1448), 2010 WL 2787546 at \*i (“direct causal link”); *id.* at iii (“direct causal link”); *id.* at 5 (“direct causal connection”); *id.* at 11 (“direct



mostly correlational, but the Court of Appeals did not explicitly refer to a need for *direct* causal evidence.<sup>252</sup> Somewhat surprisingly, the Ninth Circuit wrote that California's evidence failed to even *suggest* a causal link.<sup>253</sup> An explanation is the "confusion" in the Ninth Circuit over California's interest in restricting minors' access to violent video games, whether the interest was preventing psychological and neurological harm or aggression or both. As a result of Deputy Attorney General Morazzini disclaiming an interest in preventing aggressive behavior, the Ninth Circuit considered some of California's evidence irrelevant.<sup>254</sup> But as described by California, the Ninth Circuit actually demanded experimental evidence where minors are exposed to violent games and where "such exposure directly causes the negative physical and psychological impacts observed by the existing literature."<sup>255</sup> Put another way, California claimed the Ninth Circuit required more than experimental evidence; it required experimental evidence where the effect (psychological harm to minors or, potentially, aggressive behavior) can be observed *directly*, without resorting to proxy variables like using noise blasts. California argued that such evidence could never be obtained ethically, though it did so without discussing the study that is the closest to what California said could not be done: an experiment where the researchers exposed children to a violent or non-violent game and then observed their subsequent behavior.<sup>256</sup> California was likely correct, however, that an experimental study could not be done using games as extreme as *Postal II*, a graphically violent video game that California claimed would qualify as violent under the Act.

There are a couple of points about the Court's treatment of the scientific evidence relevant to the present Article, one a weakness in the Court's analysis and the other one a strength. First, the Court claimed

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causal link"); *id.* at 48 ("direct causal link"); *id.* ("direct causation"); *id.* ("a direct causal nexus"); *id.* at 49 ("directly causes"); *id.* at 51 ("direct causation"); *id.* at 52 ("direct causal link").

<sup>252</sup> See Video Software Dealers Ass'n v. Schwarzenegger, 556 F.3d 950, 964 (9th Cir. 2009).

<sup>253</sup> See *id.* ("None of the research establishes or suggests a causal link between minors playing violent video games and actual psychological or neurological harm, and inferences to that effect would not be reasonable.").

<sup>254</sup> See *id.* ("[T]his study largely relates to the player's violent or aggressive behavior toward others—which, as noted above, is not the interest relied on by the State here—rather than the psychological or neurological harm to the player.").

<sup>255</sup> Petitioners' Brief at 49, *Brown*, 131 S. Ct. 2729 (No. 08-1448), 2010 WL 2787546 at \*49.

<sup>256</sup> See A. Roland Irwin & Alan M. Gross, *Cognitive Tempo, Violent Video Games, and Aggressive Behavior in Young Boys*, 10 J. FAM. VIOLENCE 337 (1995). In this study, sixty boys between ages seven and eight played either the violent video game *Double Dragon* or the non-violent game *Excitebike* and were subsequently observed engaging in free play and in interactions with a child trained by the researchers. The subjects were videotaped through a one-way mirror. In part, the researchers coded acts of physical and verbal aggression. *Double Dragon*, however, would almost surely fail to qualify as a violent video game under California's Act.

that the evidence in the scientific literature for the negative effects of video game violence is correlational and not causal.<sup>257</sup> The majority therefore accepted California's implicit (though confusing) concession. Justice Breyer disagreed on this point in his dissent.<sup>258</sup> Neither opinion offered any elaboration on why the evidence should be treated as correlational or causal. In large part, this silence is understandable. There are a variety of theories of causality—Nancy Cartwright notes that there are nearly a dozen<sup>259</sup>—but the Court is in no position to arbitrate among these theories. The Court is better off remaining agnostic about the various theories of causation and instead remaining open to the variety of causal accounts offered by scientists.

In its brief, California said, “[R]esponsible, rigorous social science uses field experiments, cross-sectional correlation studies, longitudinal studies, and meta analyses combining the results of other studies to form conclusions regarding causation.”<sup>260</sup> California was correct: media violence researchers and scientists often develop causal accounts based on a variety of research designs, including experimental *and* non-experimental designs.<sup>261</sup> Media violence researchers are not unusual in doing so. California, however, was apparently unconvinced of its own argument. California's entirely accurate point about how scientists establish causation was overshadowed by its repeated statements that it could not show a *direct* causal link between video game violence and some type of harm to minors. California did not even say it could show an “indirect” causal link (assuming that would be the right term). Instead, it mostly described what it could show in terms of correlations.<sup>262</sup>

The Court relied on California's very narrow view of what counts as causal evidence, one that requires experimental evidence without

<sup>257</sup> See *Brown v. Entm't Merchs. Ass'n*, 131 S. Ct. 2729, 2738–39 (2011).

<sup>258</sup> See *id.* at 2768 (Breyer, J., dissenting).

<sup>259</sup> See CARTWRIGHT, *supra* note 208, at 43. See also Woodward, *supra* note 51, at 3 (referring to a “proliferation of self-contained schools” dealing with the topic of causation and explanation).

<sup>260</sup> Petitioners' Brief at 49, *Brown*, 131 S. Ct. 2729 (No. 08-1448), 2010 WL 2787546 at \*49.

<sup>261</sup> See Gentile, Saleem & Anderson, *supra* note 5, at 25; ANDERSON, GENTILE & BUCKLEY, *supra* note 4, at 22.

<sup>262</sup> See Petitioners' Brief at 3, *Brown*, 131 S. Ct. 2729 (No. 08-1448), 2010 WL 2787546 at \*3 (“[T]he Legislature considered numerous studies, peer-reviewed articles, and reports from social scientists and medical associations that establish a correlation between playing violent video games and an increase in aggressive thoughts and behavior, antisocial behavior, and desensitization to violence in both minors and adults.”); *id.* at 10 (“And social science has developed to a point where a correlation can be demonstrated between minors who play violent video games and physical and psychological harm.”); *id.* at 52 (“Although there have been even more studies since the California Legislature passed the Act, the evidence before it definitely established a correlation between playing violent video games and increased automatic aggressiveness, aggressive thoughts and behavior, antisocial behavior, and desensitization to violence in minors and adults.”).

resorting to proxy variables. In fact, the Court did not even take seriously the possibility that one might measure something of concern in the real world, such as aggression, through the use of laboratory measures that are highly correlated with the real-world phenomenon of interest (nor did California really try to make the case for this point). Justice Scalia's opinion instead dismissed the possibility with a brief, sarcastic footnote: "One study, for example, found that children who had just finished playing violent video games were more likely to fill in the blank letter in 'explo\_\_e' with a 'd' (so that it reads 'explode') than with an 'r' ('explore'). The prevention of this phenomenon, which might have been anticipated with common sense, is not a compelling state interest."<sup>263</sup>

A more generous approach to causation, and one that tracks the realities of scientific research, is to recognize that while spurious correlations are indeed a legitimate concern for courts, scientists and other researchers do not restrict causal conclusions only to conclusions derived from randomized controlled experiments. Experiments are favored for offering the strongest evidence of causation, but correlational evidence can also be used to support causal arguments.<sup>264</sup> It can, for example, be used to narrow the number of variables likely to cause a particular effect.<sup>265</sup> Obviously, increased caution is warranted with correlational evidence, but as already noted, even experimental evidence calls for some caution.<sup>266</sup> Again, the use of multiple research designs by multiple researchers using multiple samples is often preferable, and correlational evidence is often a legitimate part of this mix. California essentially made this point, but ultimately gave little

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<sup>263</sup> *Brown*, 131 S. Ct. at 2739 n.7 (citation omitted). *Cf.* *Entm't Software Ass'n v. Blagojevich*, 404 F. Supp. 2d 1051, 1063 (N.D. Ill. 2005) ("[T]he Court believes that many of the measures of aggression used in violent video game research are likely valid[.]"). The word completion task described by the Court may even be closer to actually measuring aggressive thoughts or cognition than the noise blast studies are to measuring aggressive behavior.

<sup>264</sup> *See* PEARL, *supra* note 51, at 59–60; JOSHUA D. ANGRIST & JÖRN-STEFFEN PISCHKE, *MOSTLY HARMLESS ECONOMETRICS* 113 (2009) ("[W]e believe that correlation can sometimes provide pretty good evidence of a causal relation, even when the variable of interest has not been manipulated by a researcher or experimenter."); CARTWRIGHT, *supra* note 208, at 190; SLOMAN, *supra* note 212, at 63–64; Richard Scheines, *The Similarity of Causal Inference in Experimental and Non-Experimental Studies*, 72 *PHIL. SCI.* 927 (2005); Woodward, *supra* note 51, at 35 ("Nor, of course, do I mean that one can learn about causal relationships *only* through experiments, or that experimentation is *always* superior to passive observation as a way of finding out about causal relationships."); JANET BUTTOLPH JOHNSON & RICHARD A. JOSLYN, *POLITICAL SCIENCE RESEARCH METHODS* 114 (1986) ("[N]onexperimental observation may be used to test hypotheses in a meaningful fashion."). *But see* Woodward, *supra* note 51, at 106 ("[T]here is a widespread consensus among both causal modelers and philosophers that reliable causal inference just on the basis of correlational evidence is not possible . . .").

<sup>265</sup> *See, e.g.*, SLOMAN, *supra* note 212, at 63–64.

<sup>266</sup> Media violence researchers are often cautious: "[T]he correlational nature of [the study] means that causal statements are risky at best." Anderson & Dill, *supra* note 158, at 782.

indication it was convinced by it. The result was a Supreme Court decision quietly premised on a very narrow view of what counts as causal evidence.

A second point is one to the Supreme Court's credit. The Court recognized a very serious limitation of the video game violence research that by itself justified the Court's decision: the California Act was "wildly underinclusive" in targeting only certain types of violence.<sup>267</sup> Justice Scalia's opinion noted the breadth of the media violence literature's definition of violence and the fact that the Act did not regulate games comparable to supposedly violent cartoons like Bugs Bunny or the Road Runner or E-rated video games like *Sonic the Hedgehog*.<sup>268</sup> Absent evidence that the games targeted by California are particularly harmful, the Act made little sense. Such evidence is apparently missing: "It appears that the assumption is made that the more realistic human violence is the only type of violence that should be restricted. However, with respect to the impact of electronic games, there are no data to support this assumption."<sup>269</sup> As noted earlier, if the media violence literature is correct about the harmful nature of media violence, broadly defined, then the Act could have been counterproductive by reinforcing the view among parents that only graphic violence is harmful.<sup>270</sup>

Comments from the oral argument offer additional support for the conclusion that the Act was underinclusive. The text of the Act refers only to depictions of certain forms of violence against *humans*.<sup>271</sup> In response to a question by Justice Sotomayor, Deputy Attorney General

<sup>267</sup> *Brown*, 131 S. Ct. at 2732.

<sup>268</sup> *See id.* at 2739. *See also* Brief of Respondents at 42, *Schwarzenegger v. Entm't Merchs. Ass'n*, No. 08-1448 (Sept. 10, 2010) ("[T]he credibility of Dr. Anderson's findings is further undermined by his statements that even playful images of violence such as those found in Bugs Bunny cartoons or E-rated games create the same 'effect' sizes as more violent video games."); ANDERSON, GENTILE & BUCKLEY, *supra* note 4, at 77 ("Perhaps the most important new finding was that even children's video games can increase aggression of children and college students if the games contain a lot of violent action. That is, the cartoonish images, happy music, and lack of blood (or realism) do not eliminate the short-term effects of violent video games on aggression."); <sup>269</sup> Funk et al., *supra* note 147, at 304. Anderson agreed with a similar point during his cross-examination. He was asked, "So, there's no support in the research that you've done or that you can report on . . . saying that games that single out humanlike victims ought to be treated differently from games that have alien victims?" Anderson responded, "That is correct." Transcript of Proceedings, *Blagojevich*, No. 05-4265 (Nov. 15, 2005), *supra* note 38, at 327-28.

<sup>270</sup> Even if there was scientific evidence showing that the games targeted by California are particularly harmful, there is no evidence that the law would have reduced minors' exposure to these games. The limited evidence available suggests that California's restrictions could have made these games even *more* appealing to minors. One study of 310 Dutch youth from ages seven to seventeen found that more restrictive age labels and violent content labels make games more attractive to consumers, particularly boys. *See* Marije Nije Bijvank et al., *Age and Violent-Content Labels Make Video Games Forbidden Fruits for Youth*, 123 *PEDIATRICS* 870, 874-75 (2009).

<sup>271</sup> *See* Assemb. B. 1179(d)(1), 2005-06 Reg. Sess. (Cal. 2005).

Morazzini conceded that the Act did not cover violence directed at humanoid aliens like the fictional Vulcans from *Star Trek*.<sup>272</sup> Video game publishers could therefore have avoided the consequences of the Act by something as minor as sharpening the ears and arching the eyebrows of all of their characters and defining them as something other than human. As many fictional alien species *appear* human, such as the Kryptonians from *Superman* or the Time Lords from *Doctor Who*,<sup>273</sup> perhaps even a small modification to the characters' ears and eyebrows would not have been necessary to avoid the Act's restrictions. Morazzini even agreed that the Act would *not* have covered violence directed at something defined as an "android computer-simulated person."<sup>274</sup> Where a game's creator defined otherwise human-looking characters in a violent video game as another species, or even as androids, it would have insulated a retailer from liability for selling or renting the game to a minor. Insofar as the Act targeted certain forms of extreme violence directed towards Captain Kirk but not Mr. Spock, it seems not only underinclusive but also faintly ridiculous.

While the Supreme Court ultimately offered a compelling reason for holding the California law unconstitutional, the Court by no means offered anything close to a thorough review of the scientific literature. In other circumstances, such a cursory examination of the science might lead to a less compelling outcome. Justice Breyer's dissent offered what might appear to be a very plausible solution to the challenges the courts faced in dealing with a sizeable scientific literature: defer to the legislature.<sup>275</sup> His dissent contains an appendix listing 115 articles he classified as supporting the hypothesis that video game violence causes harm and 34 articles he classified as rejecting it.<sup>276</sup> Breyer said that "like most judges," he "lack[s] the social science expertise to say definitively who is right."<sup>277</sup> Based on the admittedly controverted studies and expert opinions, he found sufficient evidence for the "Court to defer to an elected legislature's conclusion that the video games in question are particularly likely to harm children."<sup>278</sup>

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<sup>272</sup> See Transcript of Oral Argument at 59, *Brown v. Entm't Merchs. Ass'n*, 131 S. Ct. 2729 (2011) (No. 08-1448).

<sup>273</sup> Cf. *Doctor Who: The Beast Below* (BBC One broadcast Apr. 10, 2010) (clarifying that Time Lords came before humans, so Time Lords don't look like humans; humans instead look like Time Lords).

<sup>274</sup> Transcript of Oral Argument at 59–60, *Brown*, 131 S. Ct. 2729 (No. 08-1448).

<sup>275</sup> See *Brown v. Entm't Merchs. Ass'n*, 131 S. Ct. 2729, 2770 (Breyer, J., dissenting) ("Unlike the majority, I would find sufficient grounds in these studies and expert opinions for this Court to defer to an elected legislature's conclusion that the video games in question are particularly likely to harm children.").

<sup>276</sup> See *id.* at 2771–79.

<sup>277</sup> *Id.* at 2769.

<sup>278</sup> *Id.* at 2770. Cf. STEPHEN BREYER, MAKING OUR DEMOCRACY WORK 126 (2010)

Justice Breyer's solution might seem appealing, but he ultimately shifts the question of this Article from the judiciary to the legislature: how do *legislators* do in assessing scientific evidence? Furthermore, how do legislators do as *compared to judges*? So far as I know, there is no study, let alone a literature, assessing the relative skill of legislators and judges in reviewing or assessing scientific evidence. Moreover, the dominant goal usually associated with legislative behavior is reelection,<sup>279</sup> which is not necessarily conducive to the careful assessment of scientific evidence. As one prominent political scientist notes, "Congress is not a research bureau," and as long as electoral incentives dominate, "it is not likely to come to resemble one."<sup>280</sup> Breyer himself offered no reason why the California legislature was in a better position to analyze the scientific evidence beyond the fact that the legislature consists of elected officials. Breyer did not even provide any specifics about the legislative record in California showing that it performed particularly well in this case.

The comments by several judges in these cases do not provide much of a basis for deferring to a legislative body's wisdom. Judge Kennelly noted that the legislative record in Illinois did include scholarly articles and written testimony,<sup>281</sup> but he expressed a concern that the Illinois General Assembly failed to consider evidence against the hypothesis that video game violence causes harm.<sup>282</sup> Another district court said the legislative record in Louisiana included social science evidence, but the record was nevertheless "sparse and could hardly be called in any sense reliable."<sup>283</sup> Oklahoma, as previously noted, relied on common sense, not the scientific evidence. While one district court commented on the "unusually extensive legislative history" supporting the Indianapolis and Marion County ordinance, the court's report of the record fell significantly short of showing that the elected officials actually read, studied, or analyzed the video game violence literature in the record.<sup>284</sup>

A preliminary look at the legislative history of California's violent video game legislation suggests that it also did not do particularly well in analyzing the scientific evidence. The bill history for A.B. 1179 does

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("Legislators are better able than courts to gather empirical information, to make fact-based predictions, and to exercise informed policy judgment.")

<sup>279</sup> See DAVID R. MAYHEW, CONGRESS: THE ELECTORAL CONNECTION 15–17 (2d ed. 2004); R. DOUGLAS ARNOLD, THE LOGIC OF CONGRESSIONAL ACTION 5 (1990).

<sup>280</sup> MAYHEW, *supra* note 279, at xv.

<sup>281</sup> See *Entm't Software Ass'n v. Blagojevich*, 404 F. Supp. 2d 1051, 1058 (N.D. Ill. 2005).

<sup>282</sup> See *id.* at 1063.

<sup>283</sup> *Entm't Software Ass'n v. Foti*, 451 F. Supp. 2d 823, 832 (M.D. La. 2006).

<sup>284</sup> *Am. Amusement Mach. Ass'n v. Kendrick*, 115 F. Supp. 2d 943, 947–48 (S.D. Ind. 2000).

not list any hearings,<sup>285</sup> but this bill was originally about the medical treatment of foster children, not violent video games.<sup>286</sup> The relevant legislative history would be elsewhere, either as part of the history of A.B. 1792 or as part of the history of A.B. 450. A.B. 1792 was Assembly Member Leland Yee's bill from the previous year that was also about restricting minors' access to violent video games.<sup>287</sup> A.B. 450 was the earlier location of A.B. 1179's language.<sup>288</sup> There were two video-recorded hearings in which witnesses testified before committees in the California Assembly about the media violence literature, one for A.B. 1792 in April 2004 and one for A.B. 450 in May 2005.<sup>289</sup> Neither hearing supports the notion that the legislature was better suited to resolve the dispute among scientists about the effects of media violence.

On April 13, 2004, the California Assembly's Committee on Arts, Entertainment, Sports, Tourism, and Internet Media held a combined hearing on A.B. 1792 and A.B. 1793, both sponsored by Yee.<sup>290</sup> The effect of A.B. 1792 would have been to amend an already existing provision of the California Penal Code to define certain violent video games as "harmful matter" for minors and therefore to restrict their sale and distribution to minors.<sup>291</sup> A.B. 1793, as later enacted with the support of the Entertainment Software Association,<sup>292</sup> requires video game retailers to post a sign with information about the video game rating system.<sup>293</sup> The part of the hearing on A.B. 1792 is therefore the more relevant bill for a discussion about A.B. 1179.

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<sup>285</sup> Bill histories are available at Legislative Counsel of Cal., *Bill Information*, OFFICIAL CAL. LEGIS. INFO., <http://www.leginfo.ca.gov/bilinfo.html> (last visited Jan. 31, 2013).

<sup>286</sup> See Assemb. B. 1179, 2005–06 Reg. Sess. (Cal. Feb. 22, 2005) ("[a]n act to add Section 1507.25 to the Health and Safety Code, relating to community care facilities").

<sup>287</sup> See Assemb. B. 1792, 2003–04 Reg. Sess. (Cal. 2004).

<sup>288</sup> See *supra* note 236 and accompanying text.

<sup>289</sup> A press release reveals the possibility of a third hearing on April 18, 2005 before the California Assembly's Judiciary Committee; however, the bill history on the legislature's website does not list a hearing for that date, nor could the California State Archives identify a relevant recording on or around that date. Even if there was a hearing, the press release mentions some of the same individuals who later testified on May 3, 2005 before the Committee on Arts, Entertainment, Sports, Tourism, and Internet Media. See Press Release, Assembly Judiciary Committee Overwhelmingly Approves Yee's Violent Video Game Legislation (Apr. 18, 2005), available at <http://sd08.senate.ca.gov/news/2005-04-18-assembly-judiciary-committee-overwhelmingly-approves-yee-s-violent-video-game-legisl>.

<sup>290</sup> See Hearing on Assemb. B. 1792, 2003–04 Reg. Sess. (Cal. 2004) and Assemb. B. 1793, 2003–04 Reg. Sess. (Cal. 2004), Standing Committee on Arts, Entertainment, Sports, Tourism, and Internet Media, California State Assembly, Catalog ID No. 04-0413C1 (Apr. 13, 2004) (California State Archives DVD).

<sup>291</sup> See Assemb. B. 1792, 2003–04 Reg. Sess. (Cal. 2004).

<sup>292</sup> See Hearing on Assemb. B. 450, 2005–06 Reg. Sess. (Cal. 2005) at 01:34:15, Standing Committee on Arts, Entertainment, Sports, Tourism, and Internet Media, California State Assembly, Catalog ID No. 05-0503C2 (May 3, 2005) (California State Archives DVD) (testimony of Gail Markels).

<sup>293</sup> See Assemb. B. 1793, 2003–04 Reg. Sess. (Cal. 2004); Cal. Penal Code § 313 (2004).

The quality of the hearing offers little to no support for Justice Breyer's claim that the courts should defer to the legislature. The committee began by viewing a recording of footage from one or more violent video games for approximately a minute—far too little to establish any context for any of the violence depicted.<sup>294</sup> The committee then heard testimony from four witnesses, two in favor of and two against the bill (with several additional witnesses just noting their support or opposition on behalf of various organizations).<sup>295</sup> These four witnesses were allotted only five minutes each, which was not enough time for any serious explanation of the media violence literature.<sup>296</sup> None of the witnesses were media violence researchers and none of them offered a detailed discussion of the scientific literature.<sup>297</sup>

The first witness in support, Becca Arnold of Citizens for Responsible Media, offered only some general comments about the media violence literature and devoted the end of her testimony to recounting how a fourth-grade teacher she knew claimed that the level of aggression among her students had increased over time.<sup>298</sup> The other witness in favor of the bill, Dr. George Forest, was a representative of the California Psychiatric Association and a practicing child psychologist specializing in abused foster children.<sup>299</sup> Abused foster children tend to be aggressive, he noted.<sup>300</sup> In general terms, he said violent video games contribute to this aggression and also to desensitization.<sup>301</sup> He explicitly mentioned the media violence literature at the end of his testimony:

I think there have been plenty of studies that show that exposure to violence and aggression on TV and in video games does lead to aggressive behavior. Back in the 70s, it was the Bugs Bunny and Wile E. Coyote and Daffy Duck cartoons that were found to lead to

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<sup>294</sup> The video game footage viewed by the committee cannot be seen on the recording of the hearing. See Hearing on Assemb. B. 1792 and Assemb. B. 1793, *supra* note 290, at approximately 00:34:00 (DVD 1 of 2). The videotape used by the committee was probably the same one later submitted to the Ninth Circuit. According to the Ninth Circuit, that videotape contained "heavily edited selections," free of the relevant context for the violence, from *Grand Theft Auto: Vice City*, *Postal 2*, and *Duke Nukem 3D*. See *Video Software Dealers Ass'n v. Schwarzenegger*, 556 F.3d 950, 955 (9th Cir. 2009). A comment made during the committee hearing suggests the one minute of footage was only from *Postal 2*. See Hearing on Assemb. B. 1792 and Assemb. B. 1793, *supra* note 290, at 01:05:30 to 01:06:00 (DVD 1 of 2).

<sup>295</sup> See generally Hearing on Assemb. B. 1792 and Assemb. B. 1793, *supra* note 290.

<sup>296</sup> See generally *id.*

<sup>297</sup> See generally *id.*

<sup>298</sup> See *id.* at 00:42:30 to 00:46:45 (DVD 1 of 2).

<sup>299</sup> See *id.* at 00:46:45 to 00:50:30 (DVD 1 of 2).

<sup>300</sup> See *id.*

<sup>301</sup> See *id.*



increased aggression in children. This is far worse than that. The spectrum is way off the scale.<sup>302</sup>

Very general comments about “plenty” of studies is not very compelling.

The first witness in opposition, Gail Markels, was the general counsel for the Entertainment Software Association.<sup>303</sup> She argued that the legislation was unnecessary and unconstitutional, and only briefly mentioned the media violence literature when she reported that four government or government-related organizations found the media violence literature “inconclusive” and that several courts had already concluded that the “the research is not adequate to determine that there is causation.”<sup>304</sup> The second witness in opposition, Mike Males, was an academic who actually did focus on the media violence literature in his testimony.<sup>305</sup> In particular, he argued that the trends in youth crime over time were inconsistent with the claims of media violence researchers and offered some general criticisms of the methodology of media violence researchers, such as their reliance on proxy measures of aggression, but he did not and could not develop any of these controversial points in five minutes.<sup>306</sup>

Given his background in child psychology, Assembly Member Yee might have been expected to fill in the gaps on the media violence literature. In response to a question from a member of the committee after the witnesses completed their testimony for both A.B. 1792 and 1793, Yee offered a somewhat helpful explanation of the value of experiments but then implied that no experimental research had been

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<sup>302</sup> *Id.* at 00:50:00 (DVD 1 of 2).

<sup>303</sup> *See id.* at 00:53:15 to 00:58:30 (DVD 1 of 2).

<sup>304</sup> The four organizations she mentioned were the Federal Trade Commission, the Washington State Department of Health, the National Association of Attorneys General, and the United States Surgeon General. The courts she mentioned were the Eighth Circuit, the Seventh Circuit and “most recently” the United States District Court for the Western District of Washington. *See id.*

<sup>305</sup> *See id.* at 00:58:30 to 01:04:15 (DVD 1 of 2).

<sup>306</sup> Anderson, Gentile, and Buckley strongly reject the claim that decreases in violent crime undermine their claims that violent media cause aggression and even describe the argument as “so weak as to be embarrassing” because it ignores the multiple causes of violence. ANDERSON, GENTILE & BUCKLEY, *supra* note 4, at 21. For some debate on this topic, see Christopher J. Ferguson & John Kilburn, *Much Ado About Nothing: The Misestimation and Overinterpretation of Violent Video Game Effects in Eastern and Western Nations: Comment on Anderson et al. (2010)*, 136 PSYCHOL. BULL. 174, 176–77 (2010), and Brad J. Bushman, Hannah R. Rothstein & Craig A. Anderson, *Much Ado About Something: Violent Video Game Effects and a School of Red Herring: Reply to Ferguson and Kilburn (2010)*, 136 PSYCHOL. BULL. 182, 185 (2010). As a relevant side note, Assembly Member Sarah Reyes rejected the witness’ statistics on the decline of youth violence, largely on the basis that crime was common in her hometown region of Central and Southeast Fresno. She mentioned some specific incidents of crime in Fresno to reinforce her point. *See* Hearing on Assemb. B. 1792 and Assemb. B. 1793, *supra* note 290, at 01:08:30 to 01:09:15 (DVD 1 of 2). Other members of the committee did question Reyes’ unpersuasive rejection of the crime statistics. *See id.* at 01:12:30 to 01:13:00 to 01:14:45 (DVD 1 of 2).

done on the relationship between video game violence and aggression.<sup>307</sup> This was not true even in 2004.<sup>308</sup> Yee described the reason for the lack of experiments as the difficulty of *forcing* people in a free society to participate in experimental research, which inexplicably ignored the common use of volunteers, including college students, who are often paid or given course credit for their participation.<sup>309</sup>

The May 3, 2005 hearing on A.B. 450, which later became A.B. 1179, was another opportunity for the California legislature to demonstrate its skill with scientific evidence.<sup>310</sup> This time, the committee did not view any video game footage.<sup>311</sup> The committee did hear from seven witnesses, four in support and three opposed, with a limit of fifteen minutes total for each side.<sup>312</sup> As with the previous hearing, there were no media violence researchers and no serious engagement with the scientific literature. Three of the witnesses in support offered only general statements about the media violence literature. The best overview of the media violence literature was probably the one by Jo Seavey-Hultquist, the Program Director of the Girl Scouts of Santa Clara County.<sup>313</sup> Her comments were more detailed than the comments by Jim Steyer, a lawyer who founded Common Sense Media, or Dr. Dean Blumberg, a pediatrician who represented the California District of the American Academy of Pediatrics.<sup>314</sup> Nevertheless, Ms. Seavey-Hultquist still addressed the literature at a fairly general level during her brief comments.<sup>315</sup> The fourth witness in support was Michelle Haunold, the owner of a record company called Gearhead Records, who did not speak about the media violence literature.<sup>316</sup> Of the three witnesses in opposition, Gail Markels, again representing the Entertainment Software Association, mostly repeated the general points she offered the previous year.<sup>317</sup> The

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<sup>307</sup> See Hearing on Assemb. B. 1792 and Assemb. B. 1793, *supra* note 290, at 02:00:30 to 02:02:30 (DVD 1 of 2).

<sup>308</sup> See, e.g., Anderson & Dill, *supra* note 158; Irwin & Gross, *supra* note 256; Anderson & Ford, *supra* note 131; Silvern & Williamson, *supra* note 130; Cooper & Mackie, *supra* note 130. For a literature review of experimental work that predates Yee's comment, see Karen E. Dill & Jody C. Dill, *Video Game Violence: A Review of the Empirical Literature*, 3 *AGGRESSION & VIOLENT BEHAV.* 407, 414–20 (1998) (discussing the “small amount” of experimental research examining the relationship between video game violence and aggression). For a meta-analysis, see Anderson (2004), *supra* note 7.

<sup>309</sup> See, e.g., ANDERSON, GENTILE & BUCKLEY, *supra* note 4, at 62 (“College student participants were given course credit; all others were paid \$20 for their participation.”).

<sup>310</sup> Hearing on Assemb. B. 450, *supra* note 292.

<sup>311</sup> See generally *id.*

<sup>312</sup> See generally *id.*

<sup>313</sup> See *id.* at 00:49:45 to 00:53:00.

<sup>314</sup> See *id.* at 00:41:45 to 00:55:45.

<sup>315</sup> See *id.* at 00:49:45 to 00:53:00.

<sup>316</sup> See *id.* at 00:55:45 to 00:57:15.

<sup>317</sup> See *id.* at 01:31:00 to 01:39:15.

other two witnesses in opposition, John Merchant, the owner of a video rental store in California, and Clay Calvert, a professor of communications and law, did not address the media violence literature.<sup>318</sup>

The comments of two committee members suggest that a more detailed discussion of the science during the hearings would not have been worthwhile. Assembly Member Barbara Matthews, who later voted against A.B. 1179,<sup>319</sup> primarily worried about the ability of retailers to comply with the bill's requirements, but she also acknowledged that she was in no position to evaluate the science:

Experts really disagree on this. I know that, you know, we've always got dueling experts up here and we'll get a 12-inch stack of why this is a good idea and another 12-inch stack of equally reputable, respected experts who, who say it's, it's a bad idea. . . . I don't know if this has some lasting effect on children. I mean, we've had domestic violence forever, and we've only had videos for a short period of time, so there's been some problems besides bad videos, so, but I don't disagree with you that we've, that maybe this is not appropriate for young children.<sup>320</sup>

Assembly Member Paul Koretz, who later voted in favor of A.B. 1179,<sup>321</sup> worried about whether the industry had been given enough time to make the private ratings system work and suggested Yee's bill was premature; but unlike Matthews, he was confident that video game violence is a problem:

I believe that violent video games do everything that that the supporters of [Yee's] bill say. I think they're a great danger. I was a co-author last year, and I think they absolutely can lead to violence and do lead to violence.<sup>322</sup>

After listening to the witnesses in opposition to the bill, Koretz indicated that he did not need the science to know that video game violence causes real-world violence:

I hope we don't hear people arguing anymore that this doesn't lead to violence. I think, even if there aren't the studies yet, I think it's,

<sup>318</sup> See *id.* at 01:39:15 to 01:45:00.

<sup>319</sup> See Votes—Roll Call [AB 1179], OFFICIAL CAL. LEGIS. INFO., [http://www.leginfo.ca.gov/pub/05-06/bill/asm/ab\\_1151-1200/ab\\_1179\\_vote\\_20050908\\_1017PM\\_asm\\_floor.html](http://www.leginfo.ca.gov/pub/05-06/bill/asm/ab_1151-1200/ab_1179_vote_20050908_1017PM_asm_floor.html) (last visited Jan. 31, 2013).

<sup>320</sup> Hearing on Assemb. B. 450, *supra* note 292, at 01:11:35.

<sup>321</sup> See Votes—Roll Call [AB 1179], OFFICIAL CAL. LEGIS. INFO., [http://www.leginfo.ca.gov/pub/05-06/bill/asm/ab\\_1151-1200/ab\\_1179\\_vote\\_20050908\\_1017PM\\_asm\\_floor.html](http://www.leginfo.ca.gov/pub/05-06/bill/asm/ab_1151-1200/ab_1179_vote_20050908_1017PM_asm_floor.html) (last visited Jan. 31, 2013).

<sup>322</sup> Hearing on Assemb. B. 450, *supra* note 292, at 01:16:35.

it's very clear, it's very intuitive. I mean, if you're, if you're trying to learn to do something, it's always said visualize it. Do it over and over. That's how you'll, you'll be able to do it. I have no doubt this leads to violence, and I think arguing against that is, is a way to try to pick up supporters of this bill.<sup>323</sup>

Several of the committee members during both hearings appeared genuinely interested in grappling with the substantive issues raised by the bill (as did Yee)—especially the First Amendment concerns—but one would learn more about the media violence literature from Judge Kennelly's opinion than from these hearings.

It's possible that the deficiencies in these two hearings were corrected through other legislative activities related to one or more of Yee's video game violence bills. Yee himself later acknowledged the existence of experimental research on the effects of media violence, indicating that his knowledge (or at least his staff's knowledge) improved.<sup>324</sup> According to the brief filed with the Ninth Circuit by the State of California, "The legislative record [was] flush with peer-reviewed articles, studies, reports, and correspondence from leading social scientists and medical associations."<sup>325</sup> How many legislators actually read this material is unclear. While Yee had some familiarity with the studies, the hearings suggest that no members of the committee did.

A more thorough examination of the legislative history of the video game violence bills sponsored by Yee would be needed to make a fair determination of the quality of the legislature's handling of the video game violence research, but the quality of the 2004 and 2005 hearings provide reasons for concern. An entirely plausible hypothesis is that a judge who carefully read even *one* literature review was more knowledgeable about the video game violence literature than most or nearly all of the legislators in California who voted for A.B. 1179, including the members of the committee who were present for the hearings. At least by the end of the legislative process associated with these bills, Yee may have been better informed on this topic than most or all of the judges, but this fact alone would not offer much support for Breyer's argument that courts should defer to a legislature when First Amendment freedoms are at stake.

I return now to one of Haack's central concerns: the Supreme

<sup>323</sup> *Id.* at 01:49:35.

<sup>324</sup> See Brief of Amicus Curiae of California State Senator Leland Y. Yee, Ph.D. et al. at 27, *Schwarzenegger v. Video Software Dealers Ass'n*, No. 08-1448 (July 19, 2010) ("All major types of research methodologies have been used, including experiments, cross-sectional correlational studies, longitudinal studies, intervention studies and meta-analyses.").

<sup>325</sup> Appellants' Opening Brief, *supra* note 115, at 28.

Court needed to resolve the *Brown* dispute with the information then available to it. Like courts, legislatures face serious translation challenges too. The Court could not wait for studies comparing legislative and judicial competence in using scientific evidence or even a narrower study on the quality of legislative decision-making behind California's video game violence law. The First Amendment is a check on majority decision-making, and First Amendment freedoms are too important to restrict based on unsubstantiated assumptions about the superior institutional capacity of legislatures to deal with scientific evidence. There may be other good reasons to reject an argument for legislative deference in this context, but in the absence of some reason to think that at least the California legislature performed better in analyzing the media violence literature than the courts, Justice Breyer's argument for deference is particularly weak. The courts could not fairly avoid the translation challenges in these cases by passing the issue to the legislature.

#### CONCLUSION

Although the video game violence cases raised fewer problems for dealing with scientific evidence than many other cases, serious problems still occurred. The relevant literature is large, especially when one recognizes that these cases cannot just be about whether video game "violence" causes "aggression." At a minimum, these cases were also about, or should have been about, a nuanced view of what counts as violence and aggression, how to operationalize violence and aggression, what types of violence may be particularly harmful, who might be most susceptible to harmful effects from violent media, and whether government restrictions would do anything to alleviate the harm. Only in part did the courts deal with these assorted concerns. While this literature is not the most complicated body of scientific research, lawyers were often poorly equipped to translate it. Haack worries that science and law may have irreconcilable differences, and there are no obvious fixes for this problem generally. Translating the scientific literature into something useful is challenging, but where judges interact with the experts, there may be improvements. While one case study cannot demonstrate that judges will better handle scientific evidence when they are able to interact with experts, it is suggestive of a rather common sense conclusion: judges will better understand scientific evidence when the people who explain it to them understand it. Oftentimes, these people are not the attorneys.