

Published as: Ivory, J.D., Colwell, J., Elson, M., Ferguson, C.J., Griffiths, M.D., Markey, P.M., Savage, J. & Williams, K.D. (2015). Manufacturing consensus in a divided field and blurring the line between the aggression concept and violent crime. *Psychology of Popular Media Culture*, 4, 222–229.

**Manufacturing consensus in a divided field and blurring the line between aggression and violent crime: A comment on Bushman and Cruz**

James D. Ivory  
Department of Communication  
Virginia Tech

John Colwell  
Department of Psychology  
University of Westminster

Malte Elson  
Department of Communication  
University of Münster

Christopher J. Ferguson  
Department of Psychology  
Stetson University

Mark D. Griffiths  
Psychology Division  
Nottingham Trent University

Patrick M. Markey  
Department of Psychology  
Villanova University

Joanne Savage  
Department of Justice, Law, and Criminology  
American University

Kevin D. Williams  
Department of Communication  
Mississippi State University

Authors note: The first author wrote the first draft of the paper. The remaining authors all contributed equally to the final draft and are listed in alphabetical order.

**Abstract**

We appreciate the efforts of Bushman and Cruz to provide new data describing parents' and professionals' opinions regarding effects of media violence. Unfortunately, we feel it is necessary to call attention to apparent errors and inaccuracies in the way those data are interpreted and represented in their article. The article overstates the extent to which there is agreement that media violence has meaningful negative societal effects and misrepresents the relevance of the study to an understanding of the effects of media violence on societal violence. In contrast, we call for a climate of research on media violence that better recognizes the diversity of findings and conclusions in an active and growing research agenda and eschews unwarranted insinuations about effects on criminal violence from research focused on aggression-related measures not assessing violent crime.

**Manufacturing consensus in a divided field and blurring the line between aggression and violent crime: A comment on Bushman and Cruz**

We are a group of researchers from several academic fields with a shared interest in research on the societal effects of media violence. Our opinions vary regarding the possible relationship between exposure to media violence and aggression. Some of us are skeptical about the validity of findings linking media violence and aggressive outcomes, while others among us are receptive to research linking exposure to media violence with at least some outcomes conceptually related to aggression, either in laboratory research or more externally valid settings.

Our varied opinions about the nuances of the literature on media violence and aggression notwithstanding, we agree on some substantial concerns about the way Bushman and Cruz report and interpret their survey. Those concerns can be summarized in two general points: 1) Even taking these data at face value despite methodological shortcomings, Bushman and Cruz greatly exaggerate the extent to which a “consensus” exists on the effects of media violence among media researchers, and 2) Despite their acknowledgment that research measures conceptually related to aggression are different from actual criminal violence, Bushman and Cruz still reference acts of prominent mass violence to deliberately blur the line between them and inflate the apparent relevance of research on media violence to violent crime. Here, we emphasize that the survey shows not only that there is a diversity of opinion on the effects of media violence, but that research on media violence and aggression generally fails to inform an understanding of potential effects of media violence on violent crime.

### **The Distinction Between a Majority and a Consensus in Researchers' Opinions about Effects of Media Violence: The Need for Acknowledgment of Opposing Views**

Bushman and Cruz interpret their survey results as “major consensus among media researchers that violent media can cause aggression in children” (p. #), as well as consensus among parents and pediatricians. We should note that the representativeness of the survey sample across experts is questionable (a particular concern is the absence of criminologists from those invited to participate in the survey; their expertise is much more relevant to the topic than that of pediatricians) and the wording of the survey items is ambiguous. Additionally, there are other surveys on the topic that find lower rates of agreement among researchers that media violence has negative effects, such as preliminary findings shared by van Looy et al. (2013). Finally, other methodologies such as the Delphi method would be more robust for gathering consensus in controversial areas, facilitating communication between experts, and assisting formation of a well-informed group judgment. (Adler & Ziglio, 1996; Helmer, 1977; McBride et al, 2003; Okoli & Pawlowski, 2004).

Our primary concern, though, is that *even taking Bushman and Cruz' findings at face value, their data do not support their claims of a consensus*. Indeed, their results indicate a majority (58%) of respondents agreeing (39.6%) or strongly agreeing (18.4%) with a Likert-type statement that there is a causal link between media violence and aggression. That majority, though, is not a consensus, nor is it represented accurately by Bushman and Cruz, who conveniently chose to ignore all neutral respondents in claims such as that “among those researchers who have an opinion, 8 of 10 media researchers agree that violent games increase aggression” (p. #). We find this insincerity disappointing; why would researchers with a neutral position not be germane to the question of whether there is a consensus on effects of media

violence? There are a number of reasons that respondents might express a neutral opinion, but a neutral opinion is not the absence of an opinion nor a non-response. If the survey's neutral respondents are considered, which it seems they should by any rationale, the survey's results indicate that 58% of respondents agreed that there is a link between media violence and aggression, while 42% do not (either because they disagree or are neutral). While 58% is a majority, it is anything but a consensus. We are not at all comfortable with the idea that a putative majority comprising fewer than 2 of 3 researchers should be declared a consensus to stifle dissent. Bushman and Cruz make frequent attempts to draw analogies between the scientific consensus on climate change and researchers' opinions regarding media violence; Figure 1 indicates that according to the survey data, that comparison is totally inappropriate.

[Insert Figure 1 about here]

Interestingly, there is also evidence that the trajectory of researchers' opinion about the effects of media violence may be moving not toward the consensus claimed by Bushman and Cruz, but away from it. In 1983, Murray assessed researchers' agreement with a National Institutes of Mental Health (NIMH) statement that "...the consensus among most of the research community is that violence on television does lead to aggressive behavior by children and teenagers" (p. 1) and that "in magnitude, television violence is as strongly correlated with aggressive behavior as any other behavioral variable that has been measured" (p. 1), reporting that 82% of media researcher respondents chose to "strongly agree" (69%) or "moderately agree" (13%). By any interpretation, the survey's results suggest migration away from a consensus on negative effects of media violence among researchers over the more than three decades that have elapsed since Murray's (1983) survey.

Aside from the above concerns about the study's descriptive results, a somewhat more technical concern regards the inferential statistical analyses reported by Bushman and Cruz, which are not designed to produce results that might inform the question of a potential consensus. Bushman and Cruz seem to statistically significant differences levels of agreement across groups and items with consensus of agreement among their participants. They calculated the deviation of average agreement from the scale mid-point, presenting effect sizes as an indicator of consensus. However, this does not enlighten us about the *homogeneity* of response patterns in the sample, which would actually reflect the consensus that interests Bushman and Cruz. Consensus concerns the rate of consistency among responses, not average levels of agreement. For example, if 100% of the respondents indicated they were neutral in their level of agreement, the average level of agreement would be neutral, yet the consensus of agreement would be extremely high (unanimous, in fact). In this instance, the analyses Bushman and Cruz conducted would have erroneously produced a null result despite the perfect consensus. Similarly, if 98.9% of the researchers surveyed indicated a neutral level of agreement, the analyses conducted by Bushman and Cruz would produce a significant effect (i.e., the mean response significantly differed from neutral; see Bushman & Cruz, Table 2) if as few as four researchers (1.1%) agreed that violent media had an effect on aggression. Agreement from as few as 18 researchers (4.8%) would produce the same effect size reported by Bushman and Cruz.

The absurdity of these hypothetical scenarios illustrates the inappropriateness of the analysis strategy Bushman and Cruz have chosen assess consensus. To provide any information about actual consensus among respondents, Bushman and Cruz would have needed to use appropriate statistical procedures related to inter-rater agreement (e.g., James, Demaree, & Wolf, 1984). Of the results provided, only the descriptive response statistics reported by Bushman and

Cruz provide any useful information about whether there is a clear consensus among researchers regarding the effects of violent media on aggression, and those results indicate no such consensus with 58% of researchers agreeing that there is a link between media violence and aggression and only 35.2% agreeing media violence is a major factor in real-life violence.

We implore scholars conducting research in this area to continue to acknowledge and engage the diversity of findings and opinions regarding effects of media violence rather than indulging a quixotic quest for a consensus that does not at present exist. Instead of prematurely “nailing the coffin shut” on an open discussion about media effects and casting aspersions on the character and motivations of dissenters (e.g. Anderson, 2013; Huesmann, 2010), an open-minded approach to an active and growing research agenda will be the pathway that best represents the principles of scientific dialogue and that will be most likely to uncover truths in this challenging and controversial area. Disagreement and critique are valuable aspects of scientific dialogue, but ignoring alternate views is not.

### **The Distinction Between “Aggression” and Criminal Violence as an Effect of Media Violence Exposure: The need for Clarity and Candor**

The survey’s findings regarding opinions about the effects of media violence on real-life violence are also important to the research debate about effects of media violence. Here, the survey data indicate that a minority (35.2%) of researchers agreed that media violence was a major factor in real-life violence; nearly two-thirds either disagreed or were neutral. This low rate of agreement with the notion that media violence causes violent crime should discourage exaggerated claims about the relevance of research on aggression measures to an understanding of causes of societal violence.

Bushman and Cruz rightly note that “much of the confusion about the ‘media violence debate’ arises over the distinction between aggressive and violent behavior” (p #). However, we disagree with their claim that there is a “dearth of research studies on the link between media violence exposure and real-world violence” (p. #). There are a number of relevant studies that have examined the topic and have found little evidence that media violence as a useful causal predictor of criminal violence (Farrington & Loeber, 2002; Felson, 1996; Ferguson, 2011; Gunter, in press; Hawkins et al., 1998; Markey, Markey, & French, in press; Messner, 1986; Savage, 2004; 2008; Savage & Yancey, 2008; Surette, 2014). The few studies that have found small correlations, either find that these disappear once other factors are controlled for (e.g. Ybarra et al., 2008) or have utilized weak methodologies, such as reliance on youth self-reports, that introduce demand characteristics (e.g. DeLisi et al., 2013). Among criminologists, research exploring media violence as a potential risk factor finds little cause for concern (Felson, 1996; Messner, 1986) and reviews of risk factors for violence tend to exclude media violence as a useful predictor (Farrington & Loeber, 2002; Hawkins et al., 1998)

As Bushman and Cruz stress, there are studies suggesting that exposure to violent media affect a number of responses related to aggression, from questionnaire measures to laboratory behavioral measures. There are, of course, studies that fail to find such effects, and an increasing number of alternative explanations for effects that have been found (e.g., Adachi & Willoughby, 2012; Elson, Mohseni, Breuer, Scharnow, & Quandt, 2014). Even if we assume that research studies demonstrating the effects of media violence on aggression are consistent and valid (some of us do not), media violence can then be placed among several other cues that have been found to influence similar aggression measures, such as references to weapons (Anderson, Benjamin, & Bartholow, 1998), black competition uniforms (Frank & Gilovich, 1988), words and symbols



reminiscent of America (Ferguson & Hassin, 2007), and low blood glucose levels (Bushman, DeWall, Pond, & Hanus, 2014).

It is unsurprising, then, that researchers studying possible effects of media violence on aggression-related measures frequently allude to prominent episodes of violent crime such as mass shootings, terrorism, and other homicide (Markey, Markey, & French, in press) to give the impression that their research is germane to issues of much greater societal immediacy than laboratory aggression measures, self-report questionnaires, voodoo dolls, and administration of noise blasts and hot sauce to strangers. Media violence researchers have made claims such as that up to 30% of societal violence can be attributed to media violence (Strasburger, 2007), that media violence exposure is a major contributor to societal violence (Anderson, 2000), that the public health effects of media violence on society can be compared to those of smoking on cancer (Bushman & Anderson, 2001), and that even weak effects of media violence can be expected to produce a rise in murders at schools and other violent acts (Bushman & Anderson, 2001). These unsupported claims about links between aggression research and prominent extreme societal violence are mirrored by researchers' speculative claims in the popular media that violent media use may have played a role in specific mass shooting events (e.g., Bushman, 2013; KCCI News, 2012). Given the survey's finding that most researchers did not voice agreement that media violence are a major influence on societal violence, and given the authors' assessment that speculative attempts to implicate violent media as a cause of prominent violent crimes are "unwarranted claims" (p #), we hope Bushman and Cruz will agree that continued references to mass crimes in research articles about aggression measures and unwarranted speculation in popular media should be avoided;. In short, they serve only to mislead readers and cloud the distinction between aggression and violence.

To this point, we end our commentary where Bushman and Cruz began their article—with a powerful quote from U.S. President Barack Obama in the wake of the horrific mass shooting that occurred in Newtown, Connecticut, in December 2012. Considering that Bushman and Cruz note the distinction between aggression-related measures and actual violent crime, discouraging extrapolating findings from research dealing with effects of media violence on aggression to actual violent crime, and criticize “unwarranted claims regarding the relationship between violent video games and violent criminal behavior” (p #), this opening quote seems extremely inappropriate. If Bushman and Cruz are truly concerned that violent crime and aggression get unintentionally confounded, why open the article with such a quote at all?

We strenuously appeal to Bushman, Cruz, and others to reconsider their use of such emotionally laden, but irrelevant quotes to add an air of urgency and gravity to research that does not directly inform causes of mass murder and other violent crime. The strategy of draping research findings about media violence and aggression measures in a context of references to unrelated prominent mass shootings and other violent crimes to frame research dealing with effects of media violence on non-criminal aggression measures is frequently used but entirely inappropriate (Markey, Markey, & French, in press). At best, the tactic confuses and distracts readers; at worst, it exploits these tragedies and their victims. We urge our fellow scholars to ensure that the continuing dialogue about the potential effects of media violence appropriately interprets the potential scope of the implications of our research rather than referencing our society’s most tragic moments to give the false impression that media violence research tells us much of anything at all about the causes of those tragedies.

### References

- Adachi, P. J. C., & Willoughby, T. (2012). Aggressive behavior: Which characteristic has the greatest influence? *Psychology of Violence, 1*, 259-274. doi:10.1037/a0024908
- Adler, M., & Ziglio, E. (Eds.) (1996). *Gazing into the oracle: The Delphi method and its application to social policy and public health*. London: Jessica Kingsley Publishers).
- Anderson, C.A. (2000). Violent video games increase aggression and violence. U.S. Senate Commerce, Science, and Transportation Committee Hearing on “The Impact of Interactive Violence on Children.” Tuesday, March 21, 2000. Hearing Chaired by Senator Sam Brownback, Kansas.
- Anderson, C. A. (2013). Games, guns and mass shootings in the US. *The Bulletin of the International Society for Research on Aggression, 35*(1), 15-19.
- Anderson, C. A., Benjamin, A. J., & Bartholow, B. D. (1998). Does the gun pull the trigger? Automatic priming effects of weapon pictures and weapon names. *Psychological Science, 9*, 308–314. doi:10.1111/1467-9280.00061
- Bushman, B. (2013). Do video games play a role in shootings? *CNN.com*. Retrieved from <http://www.cnn.com/2013/09/18/opinion/bushman-video-games/>
- Bushman, B. J., & Anderson, C. A. (2002). Violent video games and hostile expectations: A test of the general aggression model. *Personality and Social Psychology Bulletin, 28*, 1679-1686. doi:10.1177/014616702237649
- Bushman, B. J., DeWall, C. N., Pond, R. S., & Hanus, M. D. (2014). Low glucose relates to greater aggression in married couples. *Proceedings of the National Academy of Science, 111*, 6254-6257. doi:10.1073/pnas.1400619111
- DeLisi, M., Vaughn, M. G., Gentile, D. A., Anderson, C. A., & Shook, J. J. (2013). Violent video games, delinquency, and youth violence: New evidence. *Youth Violence And*

- Juvenile Justice*, 11(2), 132-142. doi: 10.1177/1541204012460874
- Elson, M., Mohseni, M. R., Breuer, J., Scharrow, M., & Quandt, T. (2014). Press CRTT to measure aggressive behavior: The unstandardized use of the competitive reaction time task in aggression research. *Psychological Assessment*, 26, 419-432. doi:10.1037/a0035569
- Farrington, D.P., & Loeber, R. (2002). Serious and violent juvenile offenders. In M.K. Rosenheim, F.E. Zimring, D.S. Tanenhaus, & B. Dohrn (Eds.), *A century of juvenile justice* (pp. 206-236). Chicago, IL: University of Chicago Press.
- Felson, R. B. (1996). Mass media effects on violent behavior. *Annual Review of Sociology*, 22, 103-128. doi:10.1146/annurev.soc.22.1.103
- Ferguson, C. J. (2011). Video games and youth violence: A prospective analysis in adolescents. *Journal Of Youth And Adolescence*, 40(4), 377-391. doi:10.1007/s10964-010-9610-x
- Ferguson, M. J., & Hassin, R. R. (2007). On the automatic association between America and aggression for news watchers. *Personality and Psychological Bulletin*, 33, 1632–1647. doi:10.1177/0146167207307493
- Frank, M. G., & Gilovich, T. (1988). The dark side of self and social perception: Black uniforms and aggression in professional sports. *Journal of Personality and Social Psychology*, 54, 74–85. doi:10.1037/0022-3514.54.1.74
- Gunter, W. (in press). Impersonal agencies of communication: Comparing the effects of video games and other risk factors on violence. *Psychology of Popular Media Culture*.
- Hawkins, J.D., Herrenkohl, T., Farrington, D.P., Brewer, D, Catalano, R.F. & Harachi, T.W. (1998). A review of predictors of youth violence. In R. Loeber and D.P. Farrington (Eds.) *Serious and violent juvenile offenders: Risk factors and successful intervention* (pp. 106-146). Thousand Oaks. CA: Sage.

Helmer, O. (1977). Problems in futures research: Delphi and causal cross-impact analysis.

*Futures*, 9, 17-31. doi:10.1016/0016-3287(77)90049-0

Huesmann, L. R. (2010). Nailing the coffin shut on doubts that violent video games stimulate aggression: Comment on Anderson et al. (2010). *Psychological Bulletin*, 136, 179–181.

doi:10.1037/a0018567

James, L. R., Demaree, R. G., & Wolf, G. (1984). Estimating within-group interrater reliability with and without response bias. *Journal of Applied Psychology*, 69, 85–98.

doi:10.1037/0021-9010.69.1.85

KCCI News. (2012, December 18). Expert: Talk to your kids about video games. Retrieved from

<http://www.kcci.com/news/central-iowa/Expert-Parents-talk-to-your-kids-about-video-games/17823232#!beEfdb>

Lefsrud, L. M., & Meyer, R. E. (2012). Science or science fiction? Professionals' discursive construction of climate change. *Organization Studies*, 33, 1477-1506.

doi:10.1177/0170840612463317

Markey, P. M., Markey, C. N., & French, J. E. (In press). Violent video games and real-world violence: Rhetoric versus data. *Psychology of Popular Media Culture*.

doi:10.1037/ppm0000030

McBride, A.J., Pates, R., Ramadan, R., McGowan, C. (2003). Delphi survey of experts' opinions on strategies used by community pharmacists to reduce over-the-counter drug misuse.

*Addiction*, 98, 487-497. doi:10.1046/j.1360-0443.2003.00345.x

Messner, S. (1986). Television violence and violent crime: An aggregate analysis. *Social*

*Problems*, 33, 218-235. doi:10.1525/sp.1986.33.3.03a00050

- Murray, J. P. (1984). Results of an informal poll of knowledgeable persons concerning the impact of television violence. *Newsletter of the American Psychological Association Division of Child, Youth, and Family Services*, 7(1), 62-63.
- Okoli, C & Pawlowski, S.D. (2004). The Delphi method as a research tool: an example, design considerations and applications. *Information and Management*, 42, 15–29.  
doi:10.1016/j.im.2003.11.002
- Savage, J. (2004). Does viewing violent media really cause criminal violence? A methodological review. *Aggression and Violent Behavior*, 10, 99-128. doi:10.1016/j.avb.2003.10.001
- Savage, J. (2008). The role of exposure to media violence in the etiology of violent behavior: A criminologist weighs in. *American Behavioral Scientist*, 51, 1123-1136.  
doi:10.1177/0002764207312016
- Savage, J., & Yancey, C (2008). The effects of media violence exposure on criminal aggression: A meta-analysis. *Criminal Justice and Behavior*, 41, 771-791.  
doi:10.1177/0093854808316487
- State’s Attorney for the Judicial District of Danbury. (2013). *Report of the State’s Attorney for the Judicial District of Danbury on the shootings at Sandy Hook Elementary School and 36 Yogananda Street, Newtown, Connecticut on December 14, 2012*. Danbury, CT: Office of the state’s attorney judicial district of Danbury.
- Strasburger, V. C. (2007). Go ahead punk, make my day: it’s time for pediatricians to take action against media violence. *Pediatrics*, 119, 1398-1399. doi:10.1542/peds.2007-0083
- Surette, R. (in press). Cause or catalyst: The interaction of real world and media crime models. *American Journal of Criminal Justice*. doi:10.1007/s12103-012-9177-z

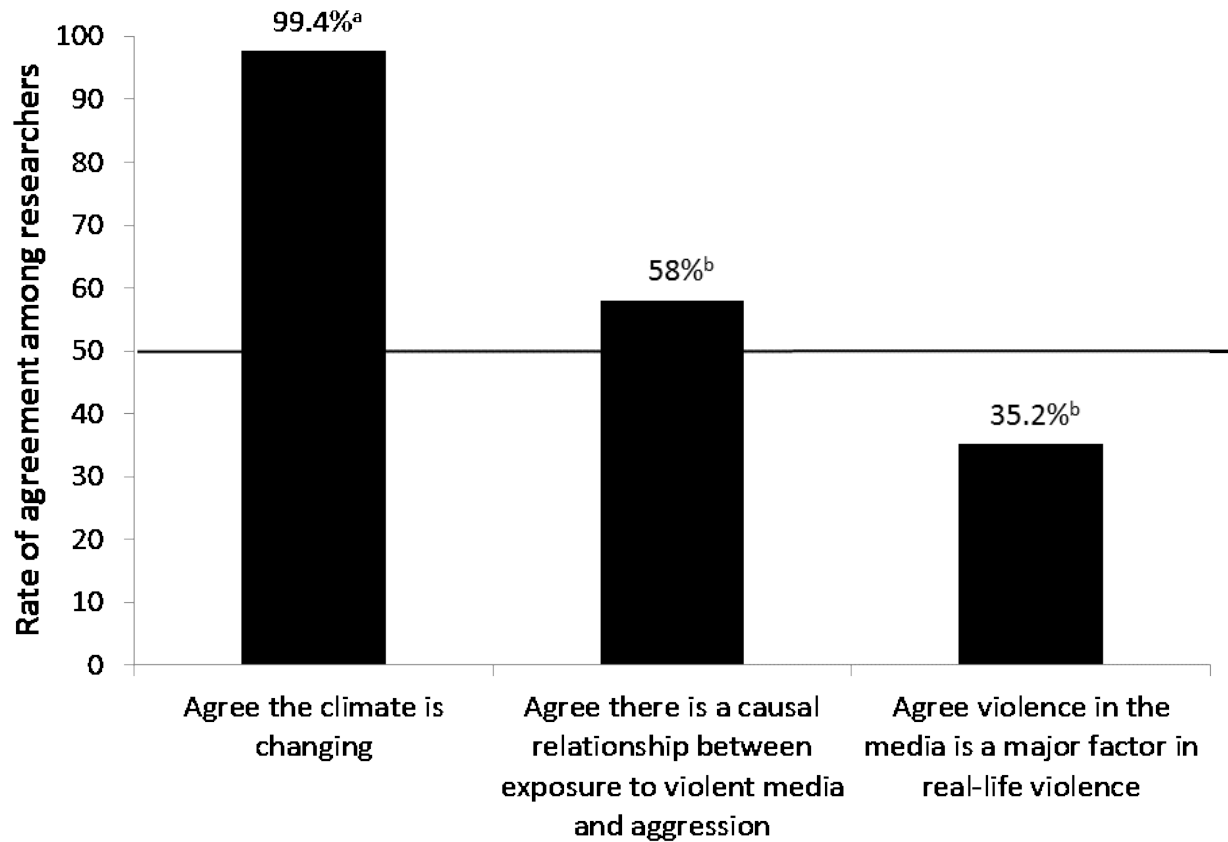
Van Looy, J., Quandt, T., Vogelgesang, J., Elson, M., Ivory, J. D., Mäyrä, F., & Consalvo, M.

(2013, June). Mapping the field of digital games research: Results of a large international survey. Paper presented at the 63rd Annual Conference of the International Communication Association, London, UK.

Ybarra, M., Diener-West, M., Markow, D., Leaf, P., Hamburger, M., & Boxer, P. (2008).

Linkages between internet and other media violence with seriously violent behavior by youth. *Pediatrics*, *122*(5), 929-937. doi:10.1542/peds.2007-3377

Figure 1. Comparison of “consensus” agreement rates reported by Bushman and Cruz for scientific consensus on climate change and opinions of media violence researchers.



Note: <sup>a</sup> Results from a survey of 1077 professional engineers and geoscientists reported in Lefsrud and Meyer (2012). <sup>b</sup> Results from a Bushman and Cruz’s survey of 371 media researchers.