

# Psychology's Multiple Concerns About Research on the Effects of Media Violence

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In the conversation that follows, Estrid Sørensen talks with Malte Elson and Tobias Rothmund, who co-authored the statement on media violence and aggression printed in the previous chapter. It describes the background for the publication of the statement as well as the disputes involved in its production and which followed its publication. It shows that it is anything but straightforward to assess and communicate what science says about the link between media violence and aggression. The work of summarizing the literature seems to be the least difficult part of this work. Many fundamental questions about psychological science arise: Questions about its theories and methods; about how to communicate its ideas to readers outside the field of psychology; about how to manage the diverse opinions and uncertainties about scientific evidence and about how to relate to colleagues who do not see the need for a statement at all. These are only some of the challenges and concerns that accompany two German psychological scientists in their research on computer game effects.

**Rothmund:** The statement was published in 2015 – two years ago – and the process of writing started considerably earlier. It refers to the then most recent publications on media violence, and since then many other studies have been published. However, the general themes and topics of psychological media effect research haven't changed and regrettably neither have the challenges mentioned in the statement been overcome. The disputes over psychological media effect research have a long tradition within and outside the scientific community.

**Elson:** There is nothing in the statement that has become out of date since its publication. However, were we to write it today, we would include a meta-analysis by Hilgard and colleagues (2017) that demonstrates publication bias in the famous

meta-study of Anderson et al. (2010). The latter is generally used as the core summary of the evidence of a link between computer games and aggression. It concludes that “exposure to violent video games is a causal risk factor for increased aggressive behavior, aggressive cognition, and aggressive affect and for decreased empathy and prosocial behavior” (Anderson et al., 2010, p. 151). Hilgard et al.’s study provides reason to be increasingly sceptical about this conclusion. I would also want to discuss the lack of engagement with transparency in the media violence research. There is an increased call for methodological transparency throughout psychological science, which unfortunately is not found in the media violence literature. I would want to emphasize that because it affects how one should assess the results. That said, the basic stance of our statement would not be different today; the questions we asked are still the questions that are considered relevant in the community.

**Sørensen:** Let’s return to those concerns in a moment. I’d like you to explain how the idea of the statement came up in the first place?

**Elson:** The German Psychological Society (*Deutsche Gesellschaft für Psychologie* [DGPs]) is organized in divisions, one of which is the Media Psychology Division...

**Sørensen:** ...and the DGPs is an academic society whose members are usually associated to universities, very differently from the American Psychological Association (APA), whose aim is not primarily academic, but rather to propagate the application of psychological knowledge in society at large.

**Elson:** Yes, DGPs is not comparable to APA in that regard. Yet, also in Germany, laypersons, journalists and others look to academic psychologists for their knowledge about, among other things, media effects. Accordingly, as a DGPs division, we are concerned with how to adequately inform the public, which obviously is particularly difficult in areas of controversial knowledge, such as the question of the link between computer games and aggression. In 2013, the DGPs Media Psychology Division launched a Facebook group, and one of the first discussions of that group was about the APA’s recent decision to revise its 2005 policy statement on media violence (APA, 2005). Some members of the Media Psychology Division found that the existing statements – produced mainly by US colleagues, among others by APA and by the International Society for Research on Aggression (ISRA, 2012) – did not present an adequately balanced view of the scientific evidence on media violence. Accordingly, they called for a statement that would better represent the existing diversity of scientific positions. The step towards actually writing the statement was also motivated by recent discussions in the Media Psychology Division about the need for better communication of scientific results to the lay public.

**Rothmund:** In 2012, the psychiatrist Manfred Spitzer published the popular science book *Digitale Demenz* (Digital dementia), which presented a critique of all kinds of new media in a way that, from a media psychology point of view, was problematically one-sided. When you are an expert in an area and you seek to produce nuanced evidence, it is highly disturbing when such self-appointed experts dominate public discussions, just as it potentially undermines scientific authority – and, in turn, your own chances to be taken seriously by the public. This was an additional motivation for formulating a statement that was evidence-based and nuanced in the sense that different scientific perspectives on the state of the evidence are reflected in the statement.

**Elson:** Contrary to the APA, DGPs has no established tradition for publishing policy statements, and it was certainly the first statement of the Media Psychology Division. Accordingly, the Division Chair was careful to consult the President of the DGPs before initiating the work. But it was a very informal process. There were ideas about possibly publishing the statement under the DGPs' name and in their official journal *Psychologische Rundschau*. Eventually, it turned out very differently...

**Rothmund:** I remember I received an e-mail from the Media Psychology Division board distributed to its members inviting those researching media violence to form an expert committee with the task of formulating a statement on media violence and aggression. I was one such researcher and I thought it would be important to have representatives of different perspectives on the committee, so it was clear to me that I wanted to join the committee.

**Sørensen:** Does that mean that you felt that your perspective was different?

**Rothmund:** Well, I knew that Malte Elson was quite critical towards the research on aggressive media effects, which he has also made clear in several publications – among others, together with Chris Ferguson, who is one of the protagonists of the whole debate on computer games and aggression (Elson & Ferguson, 2014). It also seemed reasonable to have a more moderate voice represented on the committee – someone whose perspective on this line of research is not as fundamentally critical as I perceived Malte Elson's perspective to be.

**Elson:** My opinion was that we needed a statement that could clearly present the state of the art to the public. But at the same time, I didn't think the statement should necessarily attempt to deliver a final answer to the question of whether or not media actually do make people aggressive. To me, it was important to explain that the academic community has diverse opinions on the matter. I wanted to have it stated that those questions aren't as easy to answer as one might probably think.

**Rothmund:** It was obvious that it would be difficult to reach consensus within the group. There were some clear divisions in the committee at the beginning. Elson

always said that “no, the research does not show that media violence causes aggression, because aggression can only meaningfully be measured in everyday activity”. But if you made this a criterion, there would be no study in psychology that could actually say anything about aggression. So, in order to be able to reach a conclusion about the relevance of this line of research, we extended our understanding of aggression to minor forms of aggressive behaviour and even to psychological preconditions such as aggressive *cognition* – in contrast to actual violent *acts*.

**Sørensen:** It sounds like what Thomas Kuhn (1996) calls *normal science* in which scientists adjust their questions and objects of study to make them answerable within the existing paradigm of theories and methods of the discipline.

**Rothmund:** Of course, that is certainly necessary. We discussed how to actually define our object of study – *aggression* – and we agreed on a definition of aggression as “behaviour conducted with the *intention* of harming or injuring another living creature” (Rothmund et al. 2018, this volume, p. 270, emphasis added). Based on this definition, aggression isn’t only about whether you’d actually knock down your neighbour if he insulted you. Aggressive acts include behaviours that are conducted with the intention of damaging the personal or social integrity of someone, for example by insulting someone or excluding them from your group. It is even possible to look at cognitive or affective antecedents of these kinds of behaviour that are more easily observable in a laboratory experiment. With this definition, we were able to gain a shared understanding of how to evaluate the informative value of this line of research.

**Elson:** We also avoided a good deal of disagreement by splitting up the committee tasks among its members rather than trying to work on everything as a group. We had formed a group of six members of the Media Psychology Division and we appointed Tobias Rothmund as the head of the committee. We then formulated ten questions to be answered – there was almost no discussion about the wording of those questions at all – and we then divided them among ourselves and started writing up our accounts of the state of the art.

**Sørensen:** When I read the statement, I was struck by its quite cautious style, which I understand is a result of these techniques through which you managed the differences within the group and the scientific uncertainty. To me, it does not seem to reflect the disputes that exist within the psychological community about the aggressive effects of violent games. There have been several quite fierce debates about this matter, to the extent that one of the parties told me in an interview, that when meeting someone holding a different view at a conference they would do everything to avoid being in the same room with them.

**Rothmund:** I find the emphasis on the controversy in this matter somewhat artificial. It is presented as being much stronger than the research results actually justify. The polarization between scientists who are pro and contra aggressive media effects is in my view a sociological phenomenon that results from the fact that scientists overly identify with their positions on a given topic. It is common for scientists to hold a particular hypothesis and repeatedly seek to generate evidence for this position. People like Anderson and Bushman (e.g. 2001) have their own agenda maintaining that the aggressive effects of media violence are much larger than we believe and that it is a significant problem. They accordingly produce scientific results that support this hypothesis. On the other hand, you have for instance Ferguson (e.g. 2015), who puts forward the position that violent media effect research is rubbish: it is methodological rubbish, it is rubbish because of this and it is rubbish because of that. Those people cultivate their polarized, one-sided perspectives on the matter; these perspectives have become part of their scientific identity, and this results in a polarized debate rather than in the generation of scientific progress by overcoming these opposing perspectives.

**Sørensen:** In Science Studies, there is a fundamental disagreement between two views on science: one based on Robert K. Merton's (1973) *Sociology of Science* and another based on the later *Sociology of Scientific Knowledge* (e.g. Bloor, 1976). While Merton tended to differentiate strongly between the social and normative structures of science on the one side and scientific knowledge itself on the other – which he argued was beyond the realm of sociology – the *Sociology of Scientific Knowledge* stated that the social and normative aspects of scientific structures are also productive of scientific knowledge and they influence scientific processes and results. You seem to follow Merton's idea in stating that it is indeed possible to evaluate the scientific results independently of the positioning and scientific identity of individual scientists.

**Elson:** There are surely some issues of scientific identity at play here. It is clearly easier to have a successful career as a scientist if you produce unequivocal evidence, than if you present ambiguous results or results that contradict your prior studies and thus contradict the perspective people in the scientific community associated with you. Generational differences may be relevant here as well. Worries about the potential negative effects of media are greater in older people. This is also the case among scientists and it may influence the kind of results they produce. But, in my view, there are also fundamentally differing opinions among scientists about which research methods can be considered to produce robust results and which cannot. This issue is currently discussed throughout psychology, but unfortunately less so in the area of media violence.

**Sørensen:** Are you thinking about the debates on *priming*<sup>1</sup> in psychology or the *hot sauce* and CRTT paradigms<sup>2</sup>?

**Elson:** Yes, it is about priming, about hot sauce and about fundamental aspects, such as the sample sizes and how we work as scientists – there is this new idea that, prior to running a study, researchers register their hypotheses and methods publicly in order to ensure that these are not changed after seeing the results of the research (e.g. van 't Veer & Giner-Sorolla, 2016) – and it is about transparent reporting, about *p-hacking*<sup>3</sup>, about the transformation of figures and matrices until you find a result that supports your own hypothesis, etc. All these fundamental questions nourish the oppositional positions in the media violence debate and they cast doubt on the relevance of psychological science for answering the question of media violence. If all these methodological problems were resolved, the polarizing in the interpretation of media violence studies would probably be resolved as well. However, scholars in this area have different positions as to whether me-

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- 1 *Priming* describes a cluster of different effects in which subtle stimuli purportedly govern human behaviour beyond people's awareness. An example is the so-called *Florida effect* according to which people move more slowly after having been presented – i.e. *primed* – with words associated with old age; that is, they have been primed to behave like elderly people (Bargh, Chen & Burrows, 1996). Recently, Kahnemann (2012) among others shed doubt on the reality of the phenomenon and the ability to replicate priming experiments.
  - 2 These methodological paradigms are used in the experimental measurement of aggression: During or after playing a violent computer game, an experimental subject is asked how much hot sauce he/she would give to another person (such as the game opponent) who is said to dislike spicy meals, or he/she is asked to give the other person a noise blast. The amount of hot sauce mentioned and the duration of the noise blasts are taken as a measure of the player's level of aggression. Several scholars have critiqued these methods for poor validity and standardization (Ritter & Eslea, 2005; Elson & Ferguson, 2014).
  - 3 The p-value is a statistical parameter used to indicate the significance of a relationship between two or more variables. Many journals only publish studies with a significant result (although non-significant results can be equally interesting). Because of this *publication bias*, the practice of *p-hacking* has been identified, which means that researchers keep searching in different ways in a data set – with different statistical methods – until the desired p-value is obtained, which makes it more likely that the study will be published (cf. Ionnaidis, 2005).

dia violence has an actual effect, and – more fundamentally – about how you produce evidence useful in answering that question. As long as this is the case, I consider it impossible to reach a consensus on the media violence question.

**Sørensen:** OK, so this would be the position that the social structures of science – such as publication bias – actually influence the scientific results, which gives you reason to be sceptical about the produced evidence.

**Rothmund:** If you are fundamentally critical, you'd say: "Reject all past research and start from scratch!" But there is also reason to have more confidence in past research and to say that this research does have some informative value. In light of the discussion about p-hacking it is difficult to say how big this informative value is exactly. So, we must be cautious in interpreting the evidence, and we tried to be cautious in our statement. All the discussions about methods, about scientific conduct, etc. are discussions that occur within the discipline and that will lead to better scientific practice in the future. There are many good initiatives currently operating and I don't see that the general assessment of the discipline is that all previous studies can be trashed. There is no need to ignore all prior research just because we have realized that we need to work differently in the future.

**Sørensen:** Maybe psychological science is moving from the Kuhnian *normal science* to what Funtowitz and Ravetz (1995) have coined *post-normal science*. They argue that, traditionally, uncertainty about the quality of science was managed by individual skill and communal practice, but that, increasingly, scientific results become relevant to policy issues – which is indeed the case with the question of media violence. In that case, the task of quality assurance often becomes controversial, involving conflicts over confidentiality. In this state of post-normal science, scientific consensus becomes increasingly difficult to reach and uncertainties about scientific results proliferate.

**Rothmund:** We talked about how much diversity and scientific uncertainty we should include in the statement. In the end, we did emphasize that science is uncertain and fragile by nature, but we did not contribute to diversity by juxtaposing alternative and independent perspectives. Providing alternative perspectives on the state of the evidence would leave it up to laypeople to decide about how they should position themselves in relation to this. I don't find that appropriate, since it would mean you can choose which position is more appealing to you. This almost sounds like there are alternative facts. It is important to me that we as scientists do not withdraw from our responsibility of providing a shared understanding of the state of empirical evidence.

**Sørensen:** Which implies presenting scientific results as being largely certain.

**Rothmund:** Look, we discussed quite controversially whether violence in entertainment media affects the thoughts, feelings, and behaviour of recipients.

Through weighing up the different opinions, we came up with a better understanding and phrasing of this issue than each of us would have reached individually: we both evaluated the meta-studies, the effects and effect sizes, the questions that are still unresolved and to what extent controversies exist. The APA statement on media violence (Appelbaum et al., 2015) was published soon after ours, with quite similar evaluations. I think this can be seen as a kind of validation of our procedures and our statement. Obviously, we reached our aim to accomplish a shared understanding of the current state of research.

**Sørensen:** So, you don't share Elson's more sceptical view on psychological science in general?

**Rothmund:** I do acknowledge the challenges of contemporary social sciences and of other sciences as well, but I didn't feel this statement was the place to settle those disputes. If we relate this to the current discussion about fake news, for instance, you could say that Spitzer's utterances are like fake news. But if your alternative is a highly complex account of challenges in psychological science, then people will simply conclude that Spitzer makes much more sense than psychological science does. He presents the matter clearly and to the point! What is the level of complexity that makes sense? I believe our statement was already too complex for many laypeople.

**Sørensen:** You felt it was necessary to simplify the situation to get the key message across to laypeople?

**Rothmund:** No, it is not about simplification. It is basically that we currently have a complex situation in psychology. But this does not mean that there is no relevant evidence whatsoever on the field of media violence. There *are* unambiguous results and there *is* robust evidence. And this evidence is more informative for laypeople than their own subjective opinions that are based on a much less substantial empirical basis.

**Elson:** Certainly, it wasn't pointless to write the statement, although much of the research in the field of media violence is in itself pointless. The problem is that it is impossible to assess the degree to which the body of evidence is biased. You stand before it and you can say for sure that it is not accurate, but you cannot tell the degree to which you can trust it.

**Rothmund:** In my opinion, it is more of a challenge for science to deal with these dynamics than it is informative for the lay public.

**Sørensen:** Let us talk a bit about the different positions within German psychology. It is not only media psychologists who study violent media.

**Elson:** Right, social psychologists also study the effects of media violence. This was also why the Media Psychology Division Chair, prior to announcing the call for members for the Expert Commission to formulate the statement, mentioned

this idea in a board meeting of the DGPs. And it caught the attention of the Social Psychology Division Chair, who expressed that their division would like to participate. So, this was a consideration from the beginning. However, for organizational reasons we ended up not calling for participation among the members of the Social Psychology Division. Instead, we later sent them a draft of the statement for comments.

**Sørensen:** The ISRA report on media violence was published in 2012 and authored by a commission that was chaired by a German social psychologist. In 2013, Barbara Krahe delivered a keynote at the annual meeting of the Social Psychology Division about the effects of violent computer games. The formation of your expert commission followed shortly after. Was it somehow in reaction to these endeavours within social psychology?

**Rothmund:** Not at all. As I mentioned earlier, it was difficult to reach consensus even in our small group of people. Therefore, we decided not to extend the group to the Social Psychology Division at the beginning of our endeavour. But then, after finalizing the statement, we invited social psychology colleagues to review the statement and to contribute to its formulation. Some reacted with hesitation, others with constructive approval and some with a rather dismissive attitude.

**Elson:** To me, some of the comments came across as rather unproductive, marking parts as trivial, pointing out parts that should be deleted, the need in the introduction to refer to the ISRA statement, etc. This seemed inappropriate to me as a response to an invitation to collaborate on a statement.

**Rothmund:** Some questioned the need for such a statement altogether, emphasizing that the statement published by ISRA in 2012 already existed. But the process and the legitimacy of the expert commission were also questioned, as were the competencies of its members. Our invitation may just have been too late in the process.

**Sørensen:** How then was it solved?

**Rothmund:** We solved it with the DGPs board. And we all – including the DGPs – learned quite a bit about the significance for many people of publishing such a statement. In fact, it wasn't only the Social Psychology Division that questioned the endeavour. After finalizing the statement, we first presented it to the members of the Media Psychology Division. Here, it was met with critical voices stating that they were not sure if they could actually support its publication. Others proposed holding a referendum among the members about the statement, which was heatedly discussed.

**Elson:** There were different opinions within the expert commission and there were different opinions in the Media Psychology Division. It is simply impossible to represent all the opinions in one definitive statement. Indeed, that's the whole idea

behind it. However, some colleagues felt that when the Media Psychology Division is seen as the initiator of the statement, the paper should speak for each one of its members. In the end, we agreed on introducing the statement with a disclaimer emphasizing that it does not represent each member's opinion, thus allowing individual members to distance themselves from the statement.

**Rothmund:** With the DGPs board we agreed that the statement should not be published as an official statement of the society and not on the DGPs website. On the one hand, it was feared that this would result in fierce resistance, and on the other, the statement's legitimacy could be questioned because it was not based on a formal procedure. Based on this experience, the DGPs board developed an official procedure for how to work out future statements. That, of course, was too late for our statement and we agreed with the DGPs board to state clearly in the statement that it was based on an initiative of the Media Psychology Division.

**Sørensen:** Thanks a lot for your thorough and frank accounts and insights into the complexities involved in the endeavour of publishing a scientific statement on violent media research: the various actors, whose authority is somehow addressed through the statement; the management of differences and uncertainties about scientific results; fundamental questions of methodology and theory in psychological science; the question of how to address non-scientific communities and of how to retain scientific authority in a popular and somewhat simplified discourse; and the influence of a few individual figures on the general perception of a scientific field, etc.

## LITERATURE

- Anderson, C. A. & Bushman, B. J. (2001). Effects of violent video games on aggressive behavior, aggressive cognition, aggressive affect, physiological arousal, and prosocial behavior: A meta-analytic review of the scientific literature. *Psychological Science*, *12*(5), 353-359. doi:10.1111/1467-9280.00366
- Anderson, C. A., Shibuya, A., Ihori, N., Swing, E. L., Bushman, B. J., Sakamoto, A., Rothstein, H. R. & Saleem, M. (2010). Violent video game effects on aggression, empathy, and prosocial behavior in eastern and western countries: A meta-analytic review. *Psychological Bulletin*, *136*(2), 151-173. doi: 10.1037/a0018251
- American Psychological Association. (2005). *Resolution on violence in video games and interactive media*. Retrieved from <https://www.apa.org/about/policy/interactive-media.pdf>

- Appelbaum, M., Calvert, S., Dodge, K., Graham, S., Hall, G. N., Hamby, S. & Hedges, L. (2015). *Technical report on the review of the violent video game literature*. Retrieved from <https://www.apa.org/pi/families/review-video-games.pdf>
- Bargh, J. A., Chen, M. & Burrows, L. (1996). Automaticity of social behavior: Direct effects of trait construct and stereotype activation on action. *Journal of Personality and Social Psychology*, *71*(2), 230-44. doi:10.1037/0022-3514.71.2.230.
- Bloor, D. (1976). *Knowledge and social imagery*. London: Routledge.
- Elson, M. & Ferguson, C. (2014). Twenty-five years of research on violence in digital games and aggression: Empirical evidence, perspectives, and a debate gone astray. *European Psychologist*, *19*, 33-46. doi:10.1027/1016-9040/a000147
- Ferguson, C. J. (2015). Do angry birds make for angry children? A meta-analysis of video game influences on children's and adolescents' aggression, mental health, prosocial behavior and academic performance. *Perspectives on Psychological Science*, *10*, 646-666. doi:10.1177/1745691615592234
- Funtowitz, S. O. & Ravetz, J. (1995). Science for the post-normal age. In L. Westra & J. Lemons (Eds), *Perspectives on ecological integrity* (pp. 146-161). Dordrecht: Kluwer Academic. doi.org/10.1007/978-94-011-0451-7\_10
- Hilgard J., Engelhardt C. R. & Rouder J. N. (2017). Overstated evidence for short-term effects of violent games on affect and behavior: A reanalysis of Anderson et al. (2010). *Psychological Bulletin*, *143*(7), 757-774. doi:10.1037/bul0000074
- International Society for Research on Aggression. (2012). Report of the Media Violence Commission. *Aggressive Behavior*, *38*, 335-341. doi.org/10.1002/ab.21443
- Ioannidis J. P. A. (2005). Why most published research findings are false. *PLoS Med*, *2*(8), e124. doi:10.1371/journal.pmed.0020124
- Kahneman, D. (2012). *A proposal to deal with questions about priming effects*. Retrieved from [https://www.nature.com/polopoly\\_fs/7.6716.1349271308!/supinfoFile/Kahneman%20Letter.pdf](https://www.nature.com/polopoly_fs/7.6716.1349271308!/supinfoFile/Kahneman%20Letter.pdf)
- Kuhn, T. (1996). *The structure of scientific revolutions*. Chicago: University of Chicago Press. doi:10.7208/chicago/9780226458106.001.0001
- Merton, R. K. (1973). *The sociology of science: Theoretical and empirical investigations*. Chicago: University of Chicago Press.
- Ritter, D. & Eslea, M. (2005). Hot sauce, toy guns, and graffiti: A critical account of current laboratory aggression paradigms. *Aggressive Behavior*, *31*, 407-419. doi: 10.1002/ab.20066

- Rothmund, T., Elson, M., Appel, M., Kneer, J., Pfetsch, J., Schneider, F. M. & Zahn, C. (2018). Does exposure to violence in entertainment media make people aggressive? In E. Sørensen (Ed.), *Cultures of computer game concerns: The child across families, law, science and industry* (pp. 267-282). Bielefeld: transcript.
- Spitzer, M. (2012). *Digitale Demenz. Wie wir uns und unsere Kinder um den Verstand bringen* [Digital dementia: How we drive us and our kids out of their minds]. München: Droemer.
- van 't Veer, A. E., Giner-Sorolla, R. (2016). Pre-registration in social psychology—A discussion and suggested template. *Journal of Experimental Social Psychology*, 67, 2-12. doi:10.1016/j.jesp.2016.03.004