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Communicating Science About Topics Under National Discussion

Kathleen Hall Jamieson

August 9, 2016

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How can we increase the likelihood
that science findings will reach and be
accepted by relevant audiences?

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1. Press coverage doesn't necessarily yield public recall
2. Press releases can distort, confuse or reinforce findings
3. Effective release is accurate and translates into consistent headlines
4. Accuracy and use of knowledge, not number of hits, are what matters
5. Universities should police their releases

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Press coverage doesn't necessarily yield public recall

- Despite extensive publicity of **May 17, 2016 NASEM GE report, only 18% were aware of its existence** in May APPC national survey
- Despite extensive publicity of **June 8, 2016 NASEM gene drive report, only 2% were aware of it** in June APPC national survey

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Press coverage doesn't necessarily yield public recall

- For comparison: the week after the 2 major party conventions (7/29-8/1/2016)
 - 40% could name Pence as Trump's running mate
 - 39% could name Kaine as Clinton's running mate
 - 92% could name Clinton as Dem. nominee
 - 91% could name Trump as Rep. nominee

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Press releases can distort (hype), confuse or reinforce findings

- Press releases need to:
 - a) Be accurate and focused
 - b) Clearly communicate central consequential findings

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thebmj

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RESEARCH

The association between exaggeration in health related science news and academic press releases: retrospective observational study

OPEN ACCESS

Petroc Sumner *professor*^{1,2}, Solveiga Vivian-Griffiths *research assistant*^{1,2}, Jacky Boivin *professor*², Andy Williams *lecturer*³, Christos A Venetis *senior lecturer*⁴, Aimée Davies *research assistant*⁵, Jack Ogden *research assistant*⁶, Leanne Whelan *research assistant*⁶, Bethan Hughes *research assistant*⁶, Bethan Dalton *research assistant*⁶, Fred Boy *senior lecturer*⁵, Christopher D Chambers *professor*^{1,2}

¹Cardiff University Brain Research Imaging Centre, School of Psychology, Cardiff University, Cardiff CF10 3AT, UK; ²School of Psychology, Cardiff University, UK; ³School of Journalism, Media & Cultural Studies, Cardiff University, UK; ⁴School of Women's and Children's Health, University of New South Wales, and Graduate School of Medicine, Faculty of Science, Medicine and Health, University of Wollongong, Australia; ⁵Department of Psychology, Swansea University, UK

Abstract

Objective To identify the source (press releases or news) of distortions, exaggerations, or changes to the main conclusions drawn from research that could potentially influence a reader's health related behaviour.

Design Retrospective quantitative content analysis.

Setting Journal articles, press releases, and related news, with accompanying simulations.

Sample Press releases (n=462) on biomedical and health related science issued by 20 leading UK universities in 2011, alongside their associated peer reviewed research papers and news stories (n=868).

Main outcome measures Advice to readers to change behaviour, causal statements drawn from correlational research, and inference to humans from animal research that went beyond those in the associated peer reviewed papers.

Results 40% (95% confidence interval 33% to 46%) of the press releases contained exaggerated advice, 33% (26% to 40%) contained exaggerated causal claims, and 36% (29% to 43%) contained exaggerated inference to humans from animal research. When press releases contained such exaggeration, 58% (95% confidence interval 48% to 68%), 81% (70% to 93%), and 86% (77% to 95%) of news stories, respectively, contained similar exaggeration, compared with exaggeration rates of 17% (10% to 24%), 18% (9% to 27%), and 10% (0% to 19%) in news when the press releases were not exaggerated. Odds ratios for each category of analysis were 6.5 (95% confidence interval 3.5 to 12), 20 (7.6 to 51),

and 56 (15 to 211). At the same time, there was little evidence that exaggeration in press releases increased the uptake of news.

Conclusions Exaggeration in news is strongly associated with exaggeration in press releases. Improving the accuracy of academic press releases could represent a key opportunity for reducing misleading health related news.

Introduction

The framing of health related information in the national and international media, and the way in which audiences decode it, has complex and potentially powerful impacts on healthcare utilisation and other health related behaviour in many countries.¹⁻³ The media also demonstrably influences the behaviour of scientists and doctors.^{4,5} Such impacts may often be beneficial, but misleading messages can have adverse effects (even if these effects may be difficult to predict and prove because the responses of audiences are complex and multiply determined).⁶ This problem is not restricted to rare dramatic cases such as vaccination scares,^{7,8} the cumulative effect of everyday misreporting can confuse and erode public trust in science and medicine, with detrimental consequences.⁹⁻¹¹ "Information subsidies" such as university press releases have long been used to deliver salient aspects of selected research.^{12,13} and as journalists are increasingly expected to produce more copy in less time¹⁴ these press releases have become the dominant link between academia and the media.^{15,17} As such,

Correspondence to: P Sumner or C D Chambers sumnerp@cardiff.ac.uk or chambersc1@cardiff.ac.uk

Extra material supplied by the author (see <http://www.bmj.com/content/349/bmj.g7015/tab=related#data supp>)

Supplementary information

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Distort (hype) in releases

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health related press releases
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- Sumner, Vivian-Griffiths, Boivin, et al.

BMJ, 2014



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Distort (hype) in releases

Brechman, Lee, and Capella (2009) examined 23 press releases about genetic research on cancer outcomes/behaviors and 71 related news items

- Brechman, Lee, and Cappella
Science Communication, 2009

Lost in Translation?

A Comparison of Cancer-Genetics Reporting in the Press Release and Its Subsequent Coverage in the Press

Jean Brechman

Chul-joo Lee

Joseph N. Capella

University of Pennsylvania, Philadelphia

Understanding how genetic science is communicated to the lay public is of great import. To address this issue, this study examines the presentation of genetic research relating to cancer outcomes and behaviors (i.e., prostate cancer, breast cancer, colon cancer, smoking and obesity) in both the press release ($n = 23$) and its subsequent news coverage ($n = 71$). Data suggest that genetic discoveries are presented in a biologically deterministic and simplified manner 67.5% of the time. The introduction of deterministic language is attributed equally to both press releases and news coverage. Also, there are substantive differences between content introduced in the press release and content presented in subsequent press coverage; in fact, when two sources report on the same scientific discovery, the information is inconsistent more than 40% of the time. These findings suggest that the intermediary press release may serve as a source of distortion in the dissemination of science to the lay public.

Keywords: *genetics; press release; lay press; science communication; science journalism*

Understanding how science is communicated to the lay public is of great import given its impact on matters of both personal and public health (Friedman, Dunwoody, & Rogers, 1999; Lee & Scheufele, 2006; Logan,

Authors' Note: This study was made possible by Grant 5P50CA095856-05, Effects of Public Information in Cancer, Center of Excellence in Cancer Communication Research, from the National Cancer Institute. Its contents are solely the responsibility of the authors. Correspondence concerning this article should be addressed to Jean Brechman, Annenberg School for Communication, University of Pennsylvania, Philadelphia, PA; e-mail: jbrechman@asc.upenn.edu.

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Did the press releases on these studies translate into clear, consistent headlines?

- a) APPC gun violence in movies (Nov. 2013)
- b) NASEM gene drive report (June 2016)
- c) NASEM GE report (May 2016)

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Principle: Effective release is accurate and translates into clear, consistent headlines

- Did the November 2013 releases by Pediatrics and APPC on the “Gun Violence Trends in Movies” report pass this test?

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- Posted online and sent to the journal's contacts

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- American Academy of Pediatrics
Nov. 11 2013

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Gun Violence has Tripled in PG-13 Movies

[11/11/2013](#) For Release: November 11, 2013

A study in Pediatrics has found violence in films has more than doubled since 1950, and the presence of gun violence in PG-13-rated films has more than tripled since the rating was introduced in 1985. The study, "Gun Violence Trends in Movies," in the December 2013 Pediatrics (published online Nov. 11), analyzed a sample of the top-grossing films for each of the years from 1950 to 2012. Trained analysts coded each film for the presence of violence and guns during each 5-minute segment of the movie. Researchers found an overall annual increase in gun violence from 1985 to 2012, but the trend differed by movie rating. Among films rated G and PG, gun violence decreased slightly. The rate of gun violence did not change for R-rated movies. Among films rated PG-13, gun violence increased, and since 2009, PG-13 movies have contained as much or more violence than R-rated movies. The study authors conclude that even if youth do not use guns, because of the increasing popularity of PG-13 movies, they are exposed to considerable gun portrayal and violence, which may increase their aggressive behavior.

###

The American Academy of Pediatrics is an organization of 60,000 primary care pediatricians, pediatric medical subspecialists and pediatric surgical specialists dedicated to the health, safety and well-being of infants, children, adolescents and young adults. For more information, visit www.aap.org.



American Academy of Pediatrics press release

- HEADLINE: Gun Violence has Tripled in PG-13 Movies
- 1ST SENTENCES: “A study in Pediatrics has found violence in films has more than doubled since 1950, and the presence of gun violence in PG-13-rated films has more than tripled since the rating was introduced in 1985. The study, “Gun Violence Trends in Movies,” in the December 2013 Pediatrics (published online Nov. 11), analyzed a sample of the top-grossing films for each of the years from 1950 to 2012.”

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- American Academy of Pediatrics, Nov. 11, 2013



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APPC press release

- Posted online, sent to contacts, and disseminated via PR Newswire

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Nov. 11, 2013

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FOR IMMEDIATE RELEASE

November 11, 2013

CONTACT: Michael Rozansky, 215-746-0202, mrozansky@asc.upenn.edu

More gun violence seen in top-grossing PG-13 movies than in biggest R-rated films

Movie violence has more than doubled since 1950

PHILADELPHIA – The amount of gun violence in the top-grossing PG-13 movies has more than tripled since 1985, and in 2012 it exceeded the gun violence in the top-grossing R-rated movies, according to researchers at the Annenberg Public Policy Center and the Ohio State University.

The overall rate of violence in the biggest box-office movies has more than doubled since 1950, the researchers report in a new study.

The study, “Gun Violence Trends in Movies,” published in the December issue of *Pediatrics* (online publication Nov. 11), shows that in 1985, the first full year of the PG-13 rating, the amount of gun violence in popular PG-13 movies was similar to that in movies rated G and PG. Since then, the gun violence in PG-13 movies has grown, and since 2009 it has rivaled the level of gun violence in R-rated movies.

“It’s disturbing that PG-13 movies are filled with so much gun violence,” said Dan Romer, director of the Adolescent Communication Institute of the Annenberg Public Policy Center (APPC) and a co-author of the study. “We know that movies teach children how adults behave, and they make gun use appear exciting and attractive.”

The dramatic growth of gun violence in movies aimed at younger viewers is especially troubling, the researchers said, because of the “weapons effect,” a finding that just the sight or depiction of a gun can make people behave more aggressively. “Because of the increasing popularity of PG-13 films, youth are exposed to considerable gun violence in movie scripts,” the researchers said in the study. “The mere presence of guns in these films may increase the aggressive behavior of youth.”

A G rating is “all ages admitted.” PG means “parental guidance suggested” for young children. PG-13 stands for “parents strongly cautioned” for children under 13. R stands for “restricted,” and children under age 17 must be accompanied by a parent or adult guardian.

By definition, a PG-13 movie is supposed to have less violence than an R-rated movie. The Motion Picture Association of America says on its website that the violence in a PG-13 movie “does not reach the restricted R category.” This study shows that it does.

APPC press release

- **HEADLINE:** More gun violence in top PG-13 movies than in biggest R-rated films
- **1ST SENTENCES:** “The amount of gun violence in the top-grossing PG-13 movies has more than tripled since 1985, and in 2012 it exceeded the gun violence in the top-grossing R-rated movies, according to researchers at the Annenberg Public Policy Center and the Ohio State University. The overall rate of violence in the biggest box-office movies has more than doubled since 1950, the researchers report in a new study.”

- Annenberg Public Policy Center, Nov. 11, 2013



Kathleen Hall Jamieson

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Coverage of gun violence study included:

TV/cable/radio

- ABC's "World News with Diane Sawyer"
- "Good Morning America"
- CNN
- NPR
- CBS News
- FOX News
- NBC News

International

- Mirror UK
- Malta Today
- Agence France-Presse
- The Guardian

Print/online

- Associate Press
- New York Times
- Los Angeles Times
- Wall Street Journal
- Washington Post
- TIME

Independent/advocacy sites & blogs

- Think Progress
- Screen Daily (UK)
- A.V. Club
- MyBrownBaby (parenting blog)



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Los Angeles Times

11.50 DESIGNATED AREA HIGH RISE 40 PAGES © 2013 NYT

TUESDAY, NOVEMBER 12, 2013

latimes.com

The college student thought they were after his cell phone, or maybe the car. Then the men told them to drive.

Almost all private cars in this district, you see, have an embedded device that allows a security company to lock the engine of a stolen vehicle remotely. In this case, though, when a bystander alerted the security company and the car came to a standstill, the thugs ordered the young men into another car and drove them around Kanachi to make sure they weren't being tailed.

That's when Quintanilla knew for sure: He was being kidnapped.

He and his friend were taken to a two-room house near the Northern Express, a neighborhood filled with poorly built one- and two-story structures where police are as rare as snow.

Their phones and wallets were taken and their legs chained to a bed. They were interrogated about family wealth and contact numbers, then beaten as their relatives would hear their pleas during massen calls afterward. The three kid-snappers demanded \$200,000 for the pair.

For six weeks, Quintanilla and his childhood friend (See Kanachi, A1)

Weather
Sunny and warm.
L.A. Basin: 82/58 **AA6**
Complete Index .. **AA2**



A rapid-fire surge in PG-13 violence

High body counts and bloodshed are found in films that are rated a step below R, with firearms at the fore.

By JON HERSH AND STEVEN ZEITCHIK

When the first "Die Hard" and "Terminator" movies landed in theaters in the 1980s, both were rated R. But their sequels arrived with PG-13 marks — even though the level of violence had actually escalated.

Critics have blasted Hollywood's movie ratings for years, claiming that the Motion Picture Assn. of America takes a prudish view of sex and foul language but a very liberal one when it

comes to naphets and bloodshed.

A new report provides strong evidence for that critique, concluding that gunplay has tripled within PG-13 films since 1988, the first full year the rating was used. Last year, PG-13 films were actually more violent than films rated R.

"We were absolutely stunned," said Brad Bushman of Ohio State University, co-author of the report published Monday in *Pediatrics*, the journal of the American Academy of Pediatrics. "The MPAA website clearly says that it rated films contain more violence. But PG-13 films now contain significantly more violence than R-rated films."

The MPAA declined to comment. In the past it has defended its rating system. (See Gun violence, A9)



THE PG-13 "Inception," a sci-fi thriller with Joseph Gordon-Levitt, left, and Leonardo DiCaprio, has a high rate of gun violence, the study's authors say.

urge in PG-13 violence, 2, 2013

as match R rating for Post, Nov. 11, 2013

the rampant in movie violence France-Press, NOV. 11, 2013

Headlines

The Washington Post PostTV Politics Opinions Local Sports National World

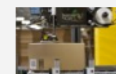
Health & Science

In the News Typhoon Haiyan Veterans Day Iran Amazon Richie Incognito

Are your **aspirations** bigger than yours?

IBM Let's Build a Smarter Planet

Midsized businesses



Amazon to begin delivering on Sundays



PHOTOS | Philippines reeling after typhoon



PG-13 movies match R rating for violence, study says

By Brady Dennis, Updated: Monday, November 11, 12:01 AM E-mail the writer

YAHOO! NEWS

Search News

Gun violence rampant in movies for teens, study shows

By Kerry Sheridan 10 hours ago

Y ✓ X f t



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THE WALL STREET JOURNAL. ARTS & ENTERTAINMENT

SPEAKEASY

PARTIES FILM TV MEDIA MUSIC

HOT TOPICS: SPEAKEASY WORLDWIDE ON THE RECORD AUTHOR ESSAYS SFW THE

3:54 pm
Nov 11, 2013 CRIME

Gun Violence in Top-Grossing PG-13 Films Exceeds R-rated Ones

ARTICLE COMMENTS (1)

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By ALEXANDRA CHENEY CONNECT

The New York Times Business Day

Media & Advertising

MEDIA DECODER

Gun Violence in American Movies Is Rising, Study Finds

By MICHAEL CIEPLY
Published: November 11, 2013

Top-Grossing PG-13 Films Exceed R-

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NBC NEWS HEALTH

TOPICS Health care Diet & Fitness Alzheimer's Body Odd More

HEALTH PG-13 movies are now more violent than R-rated '80s flicks -study

PG-13 movies are now more violent than R-rated '80s flicks -study

Melissa Dahl, TODAY

OBAMACARE Health care

PG-13 movies are now more violent than R-rated '80s flicks -study" – NBC News Nov 11 2013

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This story is part of HEALTH AND WELLNESS

Brain a 'creativity machine,' if you use it right

Simple tips to get kids to eat better, exercise more

Speaking more than one language may delay dementia

Gun violence in PG-13 films tops level in R-rated movies

Michelle Healy, USA TODAY 12:04 a.m. EST November 11, 2013

in R-rated

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Did the press releases on these studies translate into clear, consistent headlines?

a) APPC gun violence in movies (Nov. 2013)

b) NASEM gene drive report (June 2016)

c) NASEM GE report (May 2016)

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Principle: Effective release is accurate and translates into consistent headlines

- Did the June 2016 NASEM “Gene Drives on the Horizon” report pass this test?

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June 8, 2016

FOR IMMEDIATE RELEASE

Gene-Drive Modified Organisms Are Not Ready to Be Released Into Environment; New Report Calls for More Research and Robust Assessment

WASHINGTON — The emerging science of gene drives has the potential to address environmental and public health challenges, but gene-drive modified organisms are not ready to be released into the environment and require more research in laboratories and highly controlled field trials, says a new report from the National Academies of Sciences, Engineering, and Medicine. To navigate the uncertainty posed by this fast-moving field of study and make informed decisions about the development and potential application of gene-drive modified organisms, the committee that conducted the study and wrote the report recommended a collaborative, multidisciplinary, and cautious approach to

June 8, 2016

FOR IMMEDIATE RELEASE

Gene-Drive Modified Organisms Are Not Ready to Be Released Into Environment; New Report Calls for More Research and Robust Assessment

Kathleen Hall Jamieson

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- NASEM, June 8 2016



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will require collaboration among multiple fields of study including molecular biology, population genetics, evolutionary biology, and ecology. In addition, open-access, online data banks and standard operating procedures should be established to share information and guide research design.

"Responsible research on gene drives and gene drive technology requires consideration of values and public engagement throughout the process," said committee co-chair Elizabeth Heitman, associate professor of medical ethics, Vanderbilt University Medical Center's Center for Biomedical Ethics and Society. "From conducting basic research, to choosing a problem to address and an organism to modify, to devising strategies to pursue field testing safely, it is essential to examine each gene drive on a case-by-case basis and to engage stakeholders and the public in assessing their potential development."

The committee recommended a phased testing approach to gene drive research to guide research from the laboratory to the field. Because the goal of using a gene drive is to spread genetic information throughout a population rapidly, it is difficult to anticipate its impact and important to minimize the potential for unintended consequences. "Phased testing can facilitate evidence-based decision making, with every step promoting careful study and evaluation."

Each proposed field test or environmental release of a gene-drive modified organism should be subject to robust ecological risk assessment before being approved, the report says. These assessments, which take into account the gene drive's characteristics, effects on humans and the environment, and local values and governance, are a key tool for determining a gene drive's impacts. As of May 2016, no ecological risk assessment has been conducted for a gene-drive modified organism.

Public engagement can help frame and define the potential harms and potential benefits of using a gene-drive modified

NASEM press release on report

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- NASEM, June 8 2016



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NASEM press release – 1st paragraph

- “The emerging science of gene drives has the **potential to address environmental and public health challenges**, but gene-drive modified organisms are **not ready to be released into the environment and require more research** in laboratories and highly controlled field trials”
- “To navigate the uncertainty posed by this fast-moving field of study and make informed decisions about the development and potential application of gene-drive modified organisms, the committee that conducted the study and wrote the report **recommended a collaborative, multidisciplinary, and cautionary approach to research on and governance of gene drive technologies.**”

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NASEM gene drive report covered by certain major outlets & science publications

General publications

- National Public Radio (NPR)
- New York Times
- Washington Post
- PBS NewsHour
- NC State News
- Vox
- The Guardian (x3)
- Pulse Headlines
- Reason Magazine
- New Yorker Magazine
- KPBS

Science publications

- Science Magazine
- Nature (x2)
- Popular Science
- STAT (x2)
- MIT Technology (x2)

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New York Times: Panel endorses? Or supports study of? Or gives limited backing to?

- **ONLINE:** “Panel Endorses ‘Gene Drive’ Technology That Can Alter Entire Species”
- Amy Harmon, *New York Times (online)*, June 8, 2016
- **PRINT:** A1 “Science Panel Supports Study of Specieswide Gene Editing”
PRINT: A15 “Gene Editing to Alter Entire Species Gets Limited Backing From Science Panel”
- Amy Harmon, *New York Times (print)*, June 9, 2016



Washington Post headlines

- **ONLINE:** “Genetically engineered bugs to fight malaria and Zika? Not so fast, experts say”
- **PRINT:** “National Academies: Too soon to release ‘gene-drive’ organisms into nature”

Genetically engineered bugs to fight malaria and Zika? Not so fast, experts say

By Joel Achenbach June 8



Most Read

- Joel Achenbach, Washington Post

June 8, 2016

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Other headlines

- “New Genetic Engineering Method Called Promising — And Perilous”

- Rob Stein, NPR, June 8, 2016

- “We Should Keep Modifying Organisms With 'Gene Drive', Report Says: It's Too Soon to Release Them into the Wild, However...”

- Kate Baggaley, Popular Science, June 8, 2016

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Did the press releases on these studies translate into clear, consistent headlines?

- a) APPC gun violence in movies (Nov. 2013)
- b) NASEM gene drive report (June 2016)
- c) NASEM GE report (May 2016)**

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Principle: Effective release is accurate and translates into consistent headlines

- Did the May 2016 NASEM “Genetically Engineered Crops: Experiences and Prospects” report pass this test?

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NEWS

The National Academies of
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May 17, 2016

Distinction Between Genetic Engineering and Conventional Plant Breeding Becoming Less Clear, Says New Report on GE Crops

WASHINGTON – An extensive study by the National Academies of Sciences, Engineering, and Medicine has found that new technologies in genetic engineering and conventional breeding are blurring the once clear distinctions between these two crop-improvement approaches. In addition, while recognizing the inherent difficulty of detecting subtle or long-term effects on health or the environment, the study committee found no substantiated evidence of a difference in risks to human health between current commercially available genetically engineered (GE) crops and conventionally bred crops, nor did it find conclusive cause-and-effect evidence of environmental problems from the GE crops. However, evolved resistance to current GE characteristics in crops is a major agricultural problem.

A tiered process for regulating new crop varieties should focus on a plant's characteristics rather than the process by which it was developed, the committee recommends in its [report](#). New plant varieties that have intended or unintended novel characteristics that may present potential hazards should undergo safety testing – regardless of whether they were developed using genetic engineering or conventional breeding techniques. New “omics” technologies, which dramatically increase the ability to detect even small changes in plant characteristics, will be critical to detecting unintended changes in new crop varieties.

The committee used evidence accumulated over the past two decades to assess purported negative effects and purported benefits of current commercial GE crops. Since the 1980s, biologists have used genetic engineering to produce particular characteristics in plants such as longer shelf life for fruit, higher vitamin content, and resistance to diseases. However, the only genetically engineered characteristics that have been put into widespread commercial use are those that allow a crop

NASEM press release on GE report

Presented modified version
of the Report in Brief

May 17, 2016

Distinction Between Genetic Engineering and Conventional Plant Breeding Becoming Less Clear, Says New Report on GE Crops

In releasing its report, the committee established a [website](#) that enables users to look up the places in the report that address comments received by the committee from the public, and also find the reasoning behind the report's main findings and recommendations. “The committee focused on listening carefully and responding thoughtfully to members of the public who have concerns about GE crops and foods, as well as those who feel that there are great benefits to be had from GE crops,” said Gould.

Effects on human health. The committee carefully searched all available research studies for persuasive evidence of adverse health effects directly attributable to consumption of foods derived from GE crops but found none. Studies with animals and research on the chemical composition of GE foods currently on the market reveal no differences that would implicate a higher risk to human health and safety than from eating their non-GE counterparts. Though long-term epidemiological studies have not directly addressed GE food consumption, available epidemiological data do not show associations between any disease or chronic conditions and the consumption of GE foods.

There is some evidence that GE insect-resistant crops have had benefits to human health by reducing insecticide poisonings. In addition, several GE crops are in development that are designed to benefit human health, such as rice with increased beta-carotene content to help prevent blindness and death caused by vitamin A deficiencies in some developing nations.

Effects on the environment. The use of insect-resistant or herbicide-resistant crops did not reduce the overall diversity of

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- NASEM, May 17 2016



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A kind answer for resolving any uncertainties should focus on a plant's characteristics rather than the process by which

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NASEM press release on GE report

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- NASEM, May 17 2016



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NASEM press release – 1st paragraph

- “while recognizing the inherent difficulty of detecting subtle or long-term effects on health or the environment, the study committee found:”
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- “However, evolved resistance to current GE characteristics in crops is a major agricultural problem”

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- NASEM, May 17 2016

NASEM GE report coverage included:

General publications

- Washington Post
- USA Today
- Associated Press
- NBC News
- New York Times
- Wall Street Journal

Food & agriculture sites

- National Geographic's The Plate



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Conveyed message



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[Speaking of Science](#)

Are GMO crops safe? Focus on the plant, not the process, scientists say.

By [Joel Achenbach](#) May 17

Academies of Science finds GMOs not harmful to human health



[Elizabeth Weise](#), USATODAY

5:32 p.m. EDT May 17, 2016

MAY 17, 2016

Scientists Say GMO Foods Are Safe, Public Skepticism Remains

by [Tamar Haspel](#)

AP THE BIG STORY [AP Radio News](#) 0:00 / 0:00

Report: Genetically altered food safe but not curing hunger

By [SETH BORENSTEIN](#) May. 17, 2016 1:03 PM EDT

Headlines

- **Safe**
 - “Genetically Modified Crops Are Safe, Report Says” - *Maggie Fox, NBC News, May 17 2016*
 - “Genetically Engineered Crops Are Safe, Analysis Finds” - *Andrew Pollack, The New York Times, May 17 2016*



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Headlines

- **Safe but...**
 - “Report: Genetically altered food safe but not curing hunger” - *Seth Borenstein, Associated Press, May 17 2016*
 - “Science Group Vouches for GMO Foods: The report says genetically modified foods are safe for people and don’t appear to harm the environment” - *Jacob Bunge, Wall Street Journal, May 18 2016*



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Headlines

- **Product, not process**
 - “Are GMO Crops Safe? Focus on the plant, not the process, scientists say” - *Joel Achenbach, Washington Post, May 17 2016*



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1. Press coverage doesn't necessarily yield public recall
2. Press releases can distort, confuse or reinforce findings
3. Effective release is accurate and translates into consistent headlines
- 4. Accuracy and use of knowledge, not number of hits, are what matters**
5. Universities should police their releases

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Accuracy and use of knowledge, not number of hits, are what matters

Question: What is the intended audience?

- Audience for GE report should include policy-makers deliberating about/reporters writing about labeling
- Audience for gun violence in movies should include Motion Picture Association of America

Kathleen Hall Jamieson

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GE report audience should include those involved in GMO labeling debate/coverage

- No reference to NASEM report in mass-circulation mainstream July 2016 coverage of GMO labeling bill
 - Approved by the House on July 14, 2016, and signed by President Obama on July 29, 2016

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No reference to May NASEM GE report

- No mention of any findings from NASEM report on GE crop safety

- Stephanie Strom, New York Times

July 14 2016

No reference to May NASEM GE report



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Federal regulators have approved the GMO seeds on the market, but environmentalists and natural food supporters say they can hurt the environment and rely on herbicides that could harm consumers.

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- Heather Haddon, Wall Street Journal
July 14 2016

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Congress Sets GMO Label Rules That Supersede Tough State Measures

Herbalife to Pay \$300 Million Over Claims of Misrepresentation

Swatch Shares Slump on Profit Warning

BUSINESS

Congress Passes GMO Labeling Rules That Supersede Tough State Measures

In a victory for food companies, lawmakers override tough measures in Vermont and those considered elsewhere

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By **HEATHER HADDON**

Updated July 14, 2016 1:54 p.m. ET

11 COMMENTS

In a victory for food companies, Congress has passed a federal requirement for labeling products made with genetically modified organisms that will supersede tougher measures passed by one U.S. state and considered in others.

The bill will require labels to be reworked or updated to show whether any of the ingredients had their natural DNA altered, but will take years to phase in and will give companies the option of using straightforward language, digital codes or a symbol to be designed later.

The terms are in contrast to a law that went into effect this month in Vermont that the National Academies of Sciences, Engineering, and Medicine (NASEM) report found to be flawed.



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How did NASEM report get into
subsequent coverage of labeling
legislation?

Piggy-backing scientific consensus
into report of new survey

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FOR IMMEDIATE RELEASE

July 18, 2016

Contact: Michael Rozansky | michael.rozansky@appc.upenn.edu | 215-746-0202

**Americans support GMO food labels but don't know much
about safety of genetically modified foods**

PHILADELPHIA – Americans widely support the mandatory labeling of genetically modified foods, which is required in a bill approved by Congress on July 14 and sent to the White House to await President Obama's signature.

But most Americans are unaware of the scientific consensus that there is no substantiated evidence showing that genetically modified foods are unsafe. And a majority of the public (58 percent) acknowledges having only a fair or poor understanding of genetically modified organisms (GMOs).

Those are among the findings of a recent survey of U.S. adults, which preceded Congressional approval of the GMO labeling bill and was conducted by researchers from the [Department of Life Sciences Communication](#) at the University of Wisconsin-Madison and the [Annenberg Public Policy Center](#) (APPC) of the University of Pennsylvania.

The vast majority of Americans (88 percent) support the mandatory labeling of foods containing GMOs, the survey found. In addition, 91 percent agree that people have the right to know when they buy or eat products that contain GMOs.

Lack of knowledge about GMOs

But fewer than 1 in 5 people (18 percent) were aware of [a report](#) on genetically engineered crops issued on May 17, the day the survey commenced, by a committee of the National Academies of Sciences, Engineering, and Medicine. The study committee [found](#) “no substantiated evidence of a difference in risks to human health between currently commercialized genetically engineered (GE) crops and conventionally bred crops...”

In the survey, only 1 in 5 people (22 percent) agreed that scientists have not found any risks to human health from eating genetically modified foods. Nearly half (48 percent) disagreed with that statement, while 25 percent neither agreed nor disagreed. Only 39 percent of people agreed that “GMO crops are safe to eat,” while 27 percent disagreed with that statement, and 30 percent neither agreed nor disagreed.

The labeling bill approved by Congress calls for the use of on-package text, a symbol designed by the U.S. Department of Agriculture, or a digital QR code to designate food containing GMOs. A QR code, when scanned by a smartphone, can direct someone to a website with information.

APPC ASK survey on GMO foods/labels

- 58% acknowledge fair/poor understanding of GMOs

*- APPC press release, ASK survey on GMO
knowledge and food labels*

July 18 2016

Kathleen Hall Jamieson

Annenberg
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FOR IMMEDIATE RELEASE

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APPC ASK survey on GMO foods/labels

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(GE) crops and conventionally bred crops..."

In the survey, only 1 in 5 people (22 percent) agreed that scientists have not found any risks to human health from eating genetically modified foods. Nearly half (48 percent) disagreed with that statement, while 25 percent neither agreed nor disagreed. Only 39 percent of people agreed that "GMO crops are safe to eat," while 27 percent disagreed with that statement, and 30 percent neither agreed nor disagreed.

The labeling bill approved by Congress calls for the use of on-package text, a symbol designed by the U.S. Department of Agriculture, or a digital QR code to designate food containing GMOs. A QR code, when scanned by a smartphone, can direct someone to a website with information.

How the labeling bill will be implemented is still unclear, noted

Dominique Brossard, a fall 2016 visiting scholar at the Annenberg Public Policy Center and professor and chair in the Department of Life Sciences Communication at the University of Wisconsin-Madison.

"Labeling is an important issue that still needs to be debated at the national level," said Brossard, a member of the National Academies committee that issued the GMO report. She found it "troubling" that only 1 in 5 people knew that scientists have not found evidence of adverse health effects from eating GM foods.

- APPC press release, ASK survey on GMO
knowledge and food labels
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Article about ASK survey

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- Chelsea Harvey, Washington Post
July 21 2016

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Energy and Environment | Analysis

People want GMO food labeled – which is pretty much all they know about GMOs

Those on the other side of the fence, including food companies and farming organizations, have pointed out that most scientists agree there is no concrete evidence to suggest that GMOs pose a risk. In fact, the National Academy of Sciences recently released a report summarizing years of research on genetically engineered crops.

The report concluded that there was “no substantiated evidence of a difference in risks to human health between currently commercialized genetically engineered (GE) crops and conventionally bred crops, nor did it find conclusive cause-and-effect evidence of environmental problems from the GE crops.” However, it also pointed out that this doesn’t necessarily mean all future GE plants will be safe and recommended that all newly introduced crops undergo safety testing.

certain environmental groups in the United States for years. Many of these organizations have argued that the safety of GMOs is uncertain, and that genetically modified foods could pose a risk to the environment and to the health of consumers.

Those on the other side of the fence, including food companies and farming organizations, have pointed out that most scientists agree there is no concrete evidence to suggest that GMOs pose a risk. In fact, the National Academy of

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Reporting on the ASK survey

Committee member
Dominique Brossard
quoted in press release
and interviewed for
coverage discusses NASEM
report

Kathleen Hall Jamieson

Annenberg
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- Chelsea Harvey, *Washington Post*
July 21 2016

The differences between these two responses, in particular, may help reveal some complexities in the way the American public feels about GMOs, said Dominique Brossard, chair of the Department of Life Sciences Communication at the University of Wisconsin at Madison, who was involved in the survey's design and analysis. (Brossard was also a committee member involved with the recent National Academy of Sciences report on genetically engineered crops.) These results suggest that some people think scientists disagree about the safety of GMOs — but are still willing to eat them, anyway.

"I am actually concerned about the fact that only 1 in 5 people know that scientists have not found evidence of adverse side effects [of genetically engineered crops]." she said, adding that these results may speak to the overall confusion Americans feel about the topic — an issue that has probably been exacerbated by the widespread and highly publicized debate among various organizations in the country.



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Audience for movie violence study
should include those involved in the
debate about gun violence and about
violence in movies

Kathleen Hall Jamieson

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Public Policy Center



Influence of gun violence trends in movies study

- Led to conversations between scholars and influentials in the Hollywood community
- Continues to frame press reporting of violence in movies and the MPAA ratings system

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Cartoon from LA Times



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- David Horsey, Los Angeles Times
Nov. 13 2013



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- Michael Cieply and Brooks Barnes,
“Rule Followers’ Flock to a Convention
Where Fake Violence Reigns”
New York Times, July 26 2014

The Motion Picture Association of America cites its long-held position that parents, not studios, must decide what level of violence is appropriate for children to see. “The vast majority of academic studies do not provide direct ties to violence in entertainment leading to violence in real life,” said Howard Gantman, an association spokesman.

Still, Hollywood sends mixed messages on the matter. Studios point to their ratings system, but the Annenberg Public Policy Center of the University of Pennsylvania, which tracks gun use in popular films, last year found that gun violence in top-selling PG-13 rated movies exceeded that in the best-selling R-rated movies.

“What we don’t know is the kind of person who is susceptible to this influence,” said Daniel Romer, who oversees the Annenberg research.

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“weapons check” to make sure the arms are not deadly.

“I built these out of wood, aluminum, a couple of screws, some Super Glue,” said Eric Garibay of Modesto, Calif., referring to a pair of swords and some metallic tubes and boxes that looked as if they might detonate.

Nowhere is violence in entertainment more prominently on display than at Comic-Con. And yet, historically, all of the attendees have been strikingly well behaved.

“They are rule followers,” Lt. Marshall White, a San Diego police officer, said of the Comic-Con masses. Lieutenant White, who oversees patrols at the convention, added, “To them, the police are superheroes.”

This is the Comic-Con mystery — and it highlights the question at the heart of a prickly debate over violence in entertainment: Is violent behavior in real life influenced by the movies that become consumed, or is it not?



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This isn't the first time the prevalence of violence in PG-13 films has come under scrutiny. A 2013 study, for example, found that the level of gun violence in popular PG-13 movies **exceeds that of R-rated movies.**

- Oliver Gettell

Entertainment Weekly, Aug. 3 2016

Entertainment

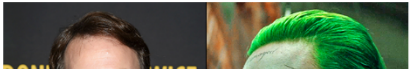
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MOVIES

Don't Think Twice director slams MPAA for rating *Suicide Squad* PG-13

Rating board's logic is 'confusing,' Mike Birbiglia says
BY OLIVER GETTELL @OGETTELL

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"Suicide Squad has machine gun killings and bombings and got a PG-13 rating." *Birbiglia wrote on Twitter*, "aDontthinkmovie gets an R because adults smoke pot. Confusing?"

Based on DC Comics' motley crew of the same name, *Suicide Squad* tells the story of a team of supervillains blackmailed into saving the world from an evil sorceress. Like many modern action tentpoles, it features extensive but mostly bloodless violence.

SEE ALSO

- Mike Birbiglia wants 'Don't Think Twice' to make you laugh — and cry
- Michael Moore lashes out at MPAA after losing ratings appeal

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How can universities increase accuracy of press releases about their scholars' research?

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“Self-correction in science at work”

Kathleen Hall Jamieson

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- *Alberts, Cicerone, et al., Science*
June 26 2015

INSIGHTS

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PERSPECTIVES

SCIENTIFIC INTEGRITY

Self-correction in science at work

Improve incentives to support research integrity

By Bruce Alberts,¹ Ralph J. Cicerone,² Stephen E. Finkelberg,³ Alexander Kamb,⁴ Marcia McNutt,⁵ Robert M. Neren,⁶ Randy Schekman,⁷ Richard Shiffrin,⁸ Victoria Stodden,⁹ Subra Suresh,¹⁰ Maria T. Zuber,¹¹ Barbara Kline Pope,¹² Kathleen Hall Jamieson^{13,14}

Work after work, news outlets carry word of new scientific discoveries, but the media sometimes give suspect science equal play with substantive discoveries. Careful qualifications about what is known are lost in categorical headlines. Rare instances of misconduct or instances of irreproducibility are translated into concerns that science is broken. The Octo-

ber 2013 *Economist* headline proclaimed “Trouble at the lab: Scientists like to think of science as self-correcting. To an alarming degree, it is not” (1). Yet, that article is also rich with instances of science both policing itself, which is how the problems came to *The Economist*’s attention in the first place, and addressing discovered lapses and irreproducibility concerns. In light of such issues and efforts, the U.S. National Academy of Sciences (NAS) and the Annenberg Retreat at Sunnylands convened our group to examine ways to remove some of the current disincentives to high standards of integrity in science.

Like all human endeavors, science is imperfect. However, as Robert Merton noted more than half a century ago “the

activities of scientists are subject to rigorous policing, to a degree perhaps unparalleled in any other field of activity” (2). As a result, as Popper argued, “science is one of the very few human activities—perhaps the only one—in which errors are systematically criticized and fairly often, in time, corrected” (3). Instances in which scientists detect and address flaws in work constitute evidence of success, not failure, because they demonstrate the underlying protective mechanisms of science at work.

Still, as in any human venture, science writ large does not always live up to its ideals. Although attempts to replicate the 1998 Wakefield study alleging an association between autism and the MMR (measles,



“Universities should insist that their faculties and students are schooled in the ethics of research, their publications feature neither honorific nor ghost authors, their public information offices avoid hype in publicizing findings, and suspect research is promptly and thoroughly investigated.”

Kathleen Hall Jamieson

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- *Alberts, Cicerone, et al., “Self-correction in science at work”*

Science, June 26 2015



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Communicating Science About Topics Under National Discussion

Kathleen Hall Jamieson

August 9, 2016

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