



# Ethics of using big data in Humanities and Social Science Research (HSS)

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# Agenda

**01** Big data in research

**02** Big data in HSS

**03** Ethical considerations

**04** Thorny issues of using big data in HSS

**05** Conclusion

# Big data in Research

A data set is 'big data' if it qualifies as huge in *volume*, high in *velocity*, and diverse in *variety* (Lemov 2015).

**Big Data**



Fascinating projects, especially in multinational, multi-disciplinary research projects where the use of big data is on the rise (National Science Board 2018).

**Resources**



**Research**

The development of novel methods to link together large and varied forms of data in increasingly sophisticated ways.

# Humanities & Social Sciences (HSS)



Literature  
Philosophy  
Theology  
Cultural Studies  
Archaeology  
Anthropology (Israel  
2006)

## HSS & Big Data


The analysis of big volumes of data opens up new avenues of research and makes it possible to answer questions that were previously unanswerable (Doorn 2014). Fundamental to, developing new types of visualisation and representation, or inspiring creative new ways to engage with data (Earnshaw et al. 2019)

Political Science  
Economics  
Psychology  
Geography  
Business & Management  
Criminology & Sociology  
(Israel 2006)

# Examples

Whether an in-race pacing strategy can improve finish times and prevent runners from hitting the wall? [Link](#)

- Sport Science & Health, Psychology, Human/Tech interaction.



**Pace-Man** 4+  
Pace and predict your marathon  
[Cailbhe Doherty](#)  
★★★★★ 5.0, 2 Ratings  
Free

#### HOST INSTITUTIONS



NUI Galway  
OÉ Gaillimh



University College Cork, Ireland  
Coláiste na hOllscoile Corcaigh



#### PARTNER INSTITUTIONS



Maynooth University  
National University of Ireland Maynooth



Tyndall  
National Institute for Research in  
Medical Sciences



Trinity College Dublin  
Coláiste na Tríonóide, Baile Átha Cliath  
The University of Dublin



UNIVERSITY OF LIMERICK  
Ollscoil Limerick



## How data analytics revealed new insights in Ryan report on child abuse

New fields are benefiting from a dynamic search function that allows for an astonishing level of specific detail

© Thu, Sep 6, 2018, 02:34 | Updated: Thu, Sep 6, 2018, 11:11

Olive Keogh



Emilie Pine, associate professor of modern drama at UCD, and research fellow Susan Leavy. With regard to the Ryan report, Pine says: "With clear visualisations we show, for the first time, the active networks behind the industrial schools."



**Understanding Scanlation: How to read one million fan-translated manga pages**

# Bulletin of the Association for Information Science and Technology

“Big data introduces big challenges for research ethics, but **none** that seem to go **beyond the typical concerns raised by traditional research**: participants should

## Hypothesis:

Big data introduces big challenges for research ethics, but **none** that seem to go beyond the typical concerns raised by traditional research.



# Typical concerns raised by traditional research

Ethical considerations in research involving human subjects

## **Autonomy**

Free from others' control and limitations that prevent meaningful choice.

## **Non-maleficence**

Above all, do not harm.

## **Beneficence**

Contribute to the welfare of subjects.

## **Justice**

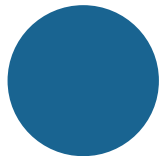
Take into account fairness in the distribution of benefits and burdens.



Beauchamp and Childress



# Test our hypothesis: Data extracted from Mobile Apps



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## Hypothesis:

Big data introduces big challenges for research ethics, but **none** that seem to go beyond the typical concerns raised by traditional research.

Accept/Reject?

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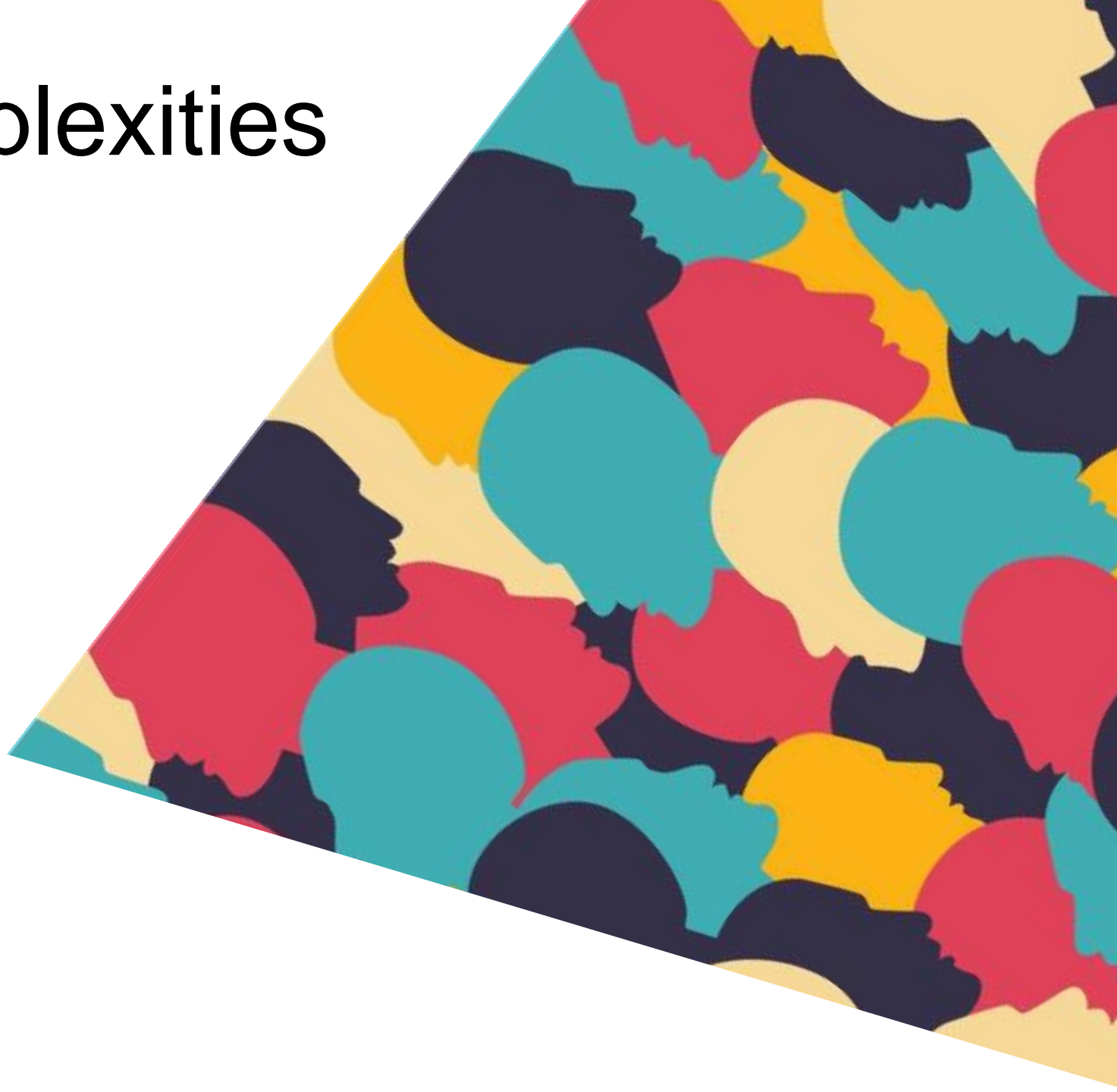


Bene

Who

# Conceptual Complexities

- Privacy
- Benefits



# Non-academic interests

We translate the best of behavioural science into policy and practice. [Our skilled and experienced staff](#) comprise ex-civil servants, policy specialists and academics from disciplines including behavioural economics, social psychology, neuroscience and anthropology.

Our international panel of [world-leading academic affiliates](#) includes Professor Richard Thaler, winner of the 2017 Nobel Prize in Economics, and Theresa Marteau, director of the Behaviour and Health Research Unit at the University of Cambridge. We also have a formal partnership with Harvard University's Behavioral Insights Group (BIG) and close relationships with several universities, including Harvard, Oxford, Cambridge, UCL and University of Pennsylvania.

We are jointly owned by the UK Cabinet Office, innovation charity Nesta and our employees.



# Common ethical issues in research

- HARKING (Hypothesizing After the Results Are Known)
- Lack of pre-registration of studies
- Outsourcing data collection
- Undisclosed funders



# Conclusions and recommendations



Using big data in HSS is inevitable and on the rise.



To use big data in HSS, various ethical issues need further consideration by ethics experts.



Research ethics committees should assess the use of big data in HSS more rigorously.



International guidelines are needed to enforce policies about the ethical use of big data in HSS research.

# Thank you!



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