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DEEPFAKE IMPACT? ANALYSING THE SUSTAINABILITY OF NEWS ORGANISATIONS IN THE ERA OF ARTIFICIAL INTELLIGENCE (AI)

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Daniel Seibert, Alexander Godulla, Rosanna Planer
Leipzig University

DEEPFAKES

Deepfakes can be defined as an output of “artificial intelligence-based image synthesis technique that involves creating fake but highly realistic video content“ (CDEI, 2019). Using deepfake technology, it is possible to represent a person in any situation or environment imaginable (CDEI, 2019) and use existing recordings of a person's voice to have them say any sentence (Vaccari & Chadwick, 2019).

1. DEEPFAKE DEFINITION

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- Face replacement
- Face re-enactment
- Face generation
- Speech synthesis (CDEI, 2019)

Trends

- prevalence of deepfakes is rising extremely (Simonite, 2019)
- to date: majority of deepfakes consist of pornographic content of women (Simonite, 2019)

1. DEEPFAKE DEFINITION

Key challenges

- high credibility and audiences' trust in truthfulness of audio-visual content (Fehrensen & Täubner, 2019; Sundar et al., 2021)
- Deepfake creation is getting easier
- the (viral) distribution of Deepfakes through social network sites
- Deepfakes may enter broader social, political, and economic contexts

RQ: WHAT CHALLENGES DO JOURNALISM AND NEWS ORGANISATIONS FACE DUE TO THE CREATION OF DEEPFAKES?

2. METHODOLOGY: LITERATURE REVIEW

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- period: April 27th to May 11th, 2020
- keywords: deepfake / deep fake
- time frame: publications from 2018 to 2020
- journal articles and conference papers
- sample size: 37 articles

Items	Prevalence
Analytical approach	Conceptual: 20 Empirical: 17
Type of deepfake approach investigated	Focus on risks: 31 Focus on opportunities: 6

3. RESULTS

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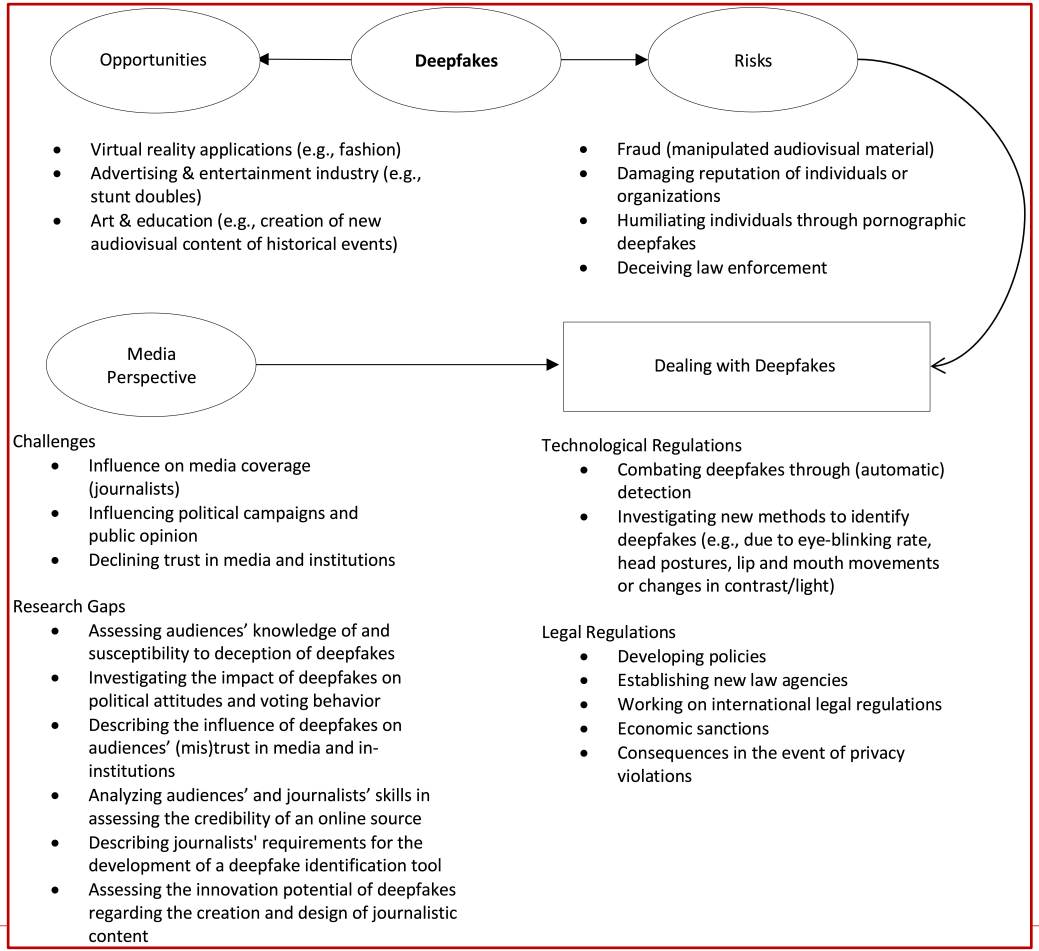
Figure 1. Challenge Model of Deepfake Impact

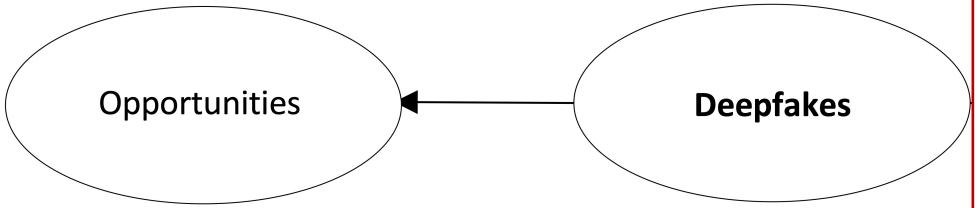


- **Addressing challenges and revealing gaps in research in order to support media organisations**

3. RESULTS

- **Opportunities and risks**

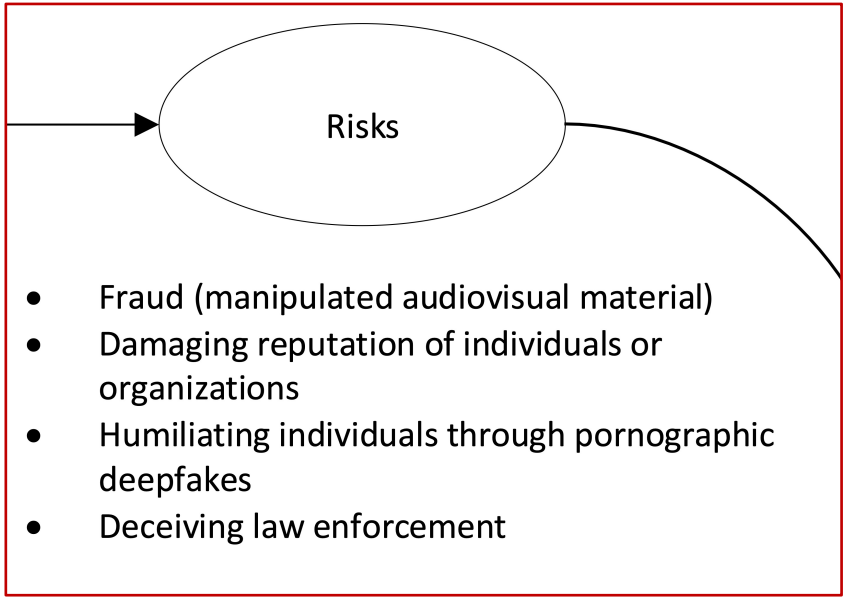
Figure 1. Challenge Model of Deepfake Impact



- Virtual reality applications (e.g., fashion)
- Advertising & entertainment industry (e.g., stunt doubles)
- Art & education (e.g., creation of new audiovisual content of historical events)

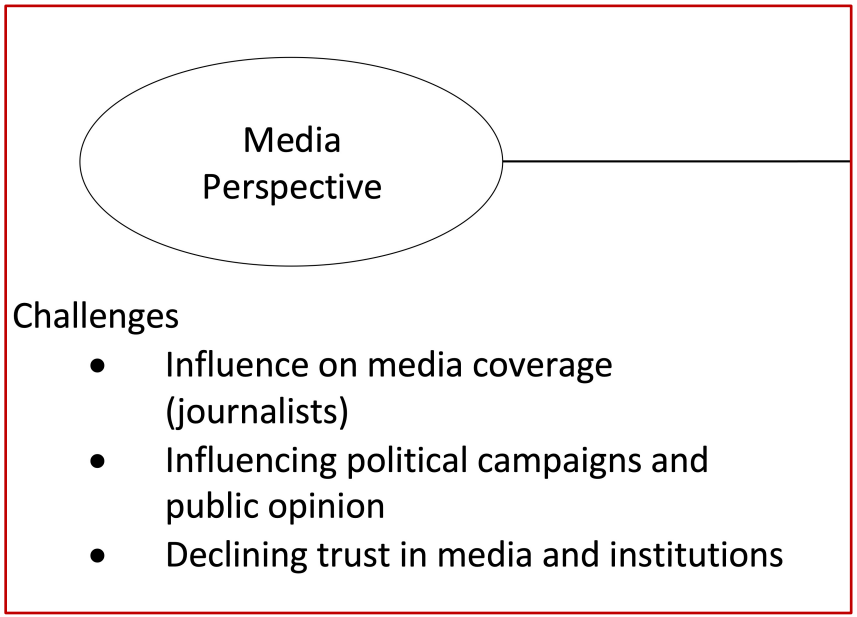
3. RESULTS

- **Opportunities and risks**



3. RESULTS

- **Applying the media perspective**



3. RESULTS

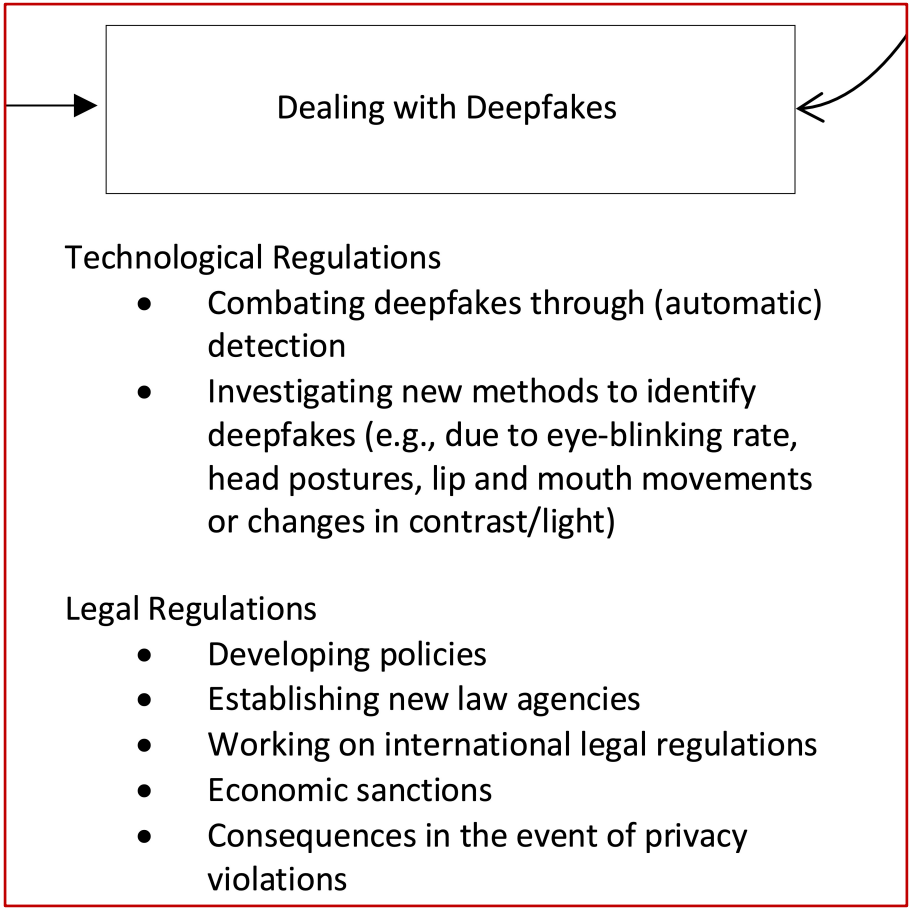
➢ **Applying the media perspective**

Research Gaps

- Assessing audiences' knowledge of and susceptibility to deception of deepfakes
- Investigating the impact of deepfakes on political attitudes and voting behavior
- Describing the influence of deepfakes on audiences' (mis)trust in media and in-institutions
- Analyzing audiences' and journalists' skills in assessing the credibility of an online source
- Describing journalists' requirements for the development of a deepfake identification tool
- Assessing the innovation potential of deepfakes regarding the creation and design of journalistic content

3. RESULTS

- **Dealing with deepfakes**



4. OUTLOOK

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- Further developing technological and legal regulations
- Expanding social sciences research
- Applying an interdisciplinary approach considering media law, media economics and media technology
- Exploring potentials of deepfakes in the context of education or science communication

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REFERENCES

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THANK YOU VERY MUCH FOR YOUR ATTENTION!

Daniel Seibert
Leipzig University, Institute for Communication and Media Studies

daniel.seibert@uni-leipzig.de
www.uni-leipzig.de

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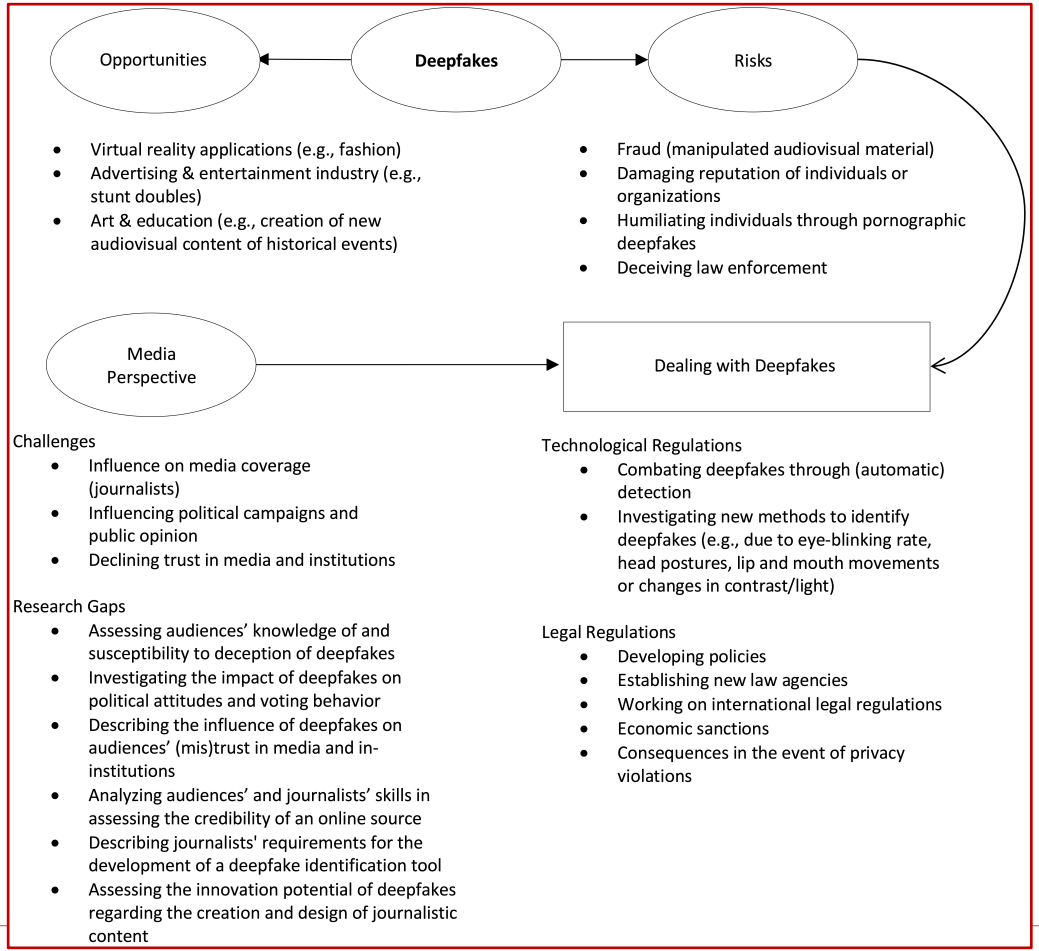
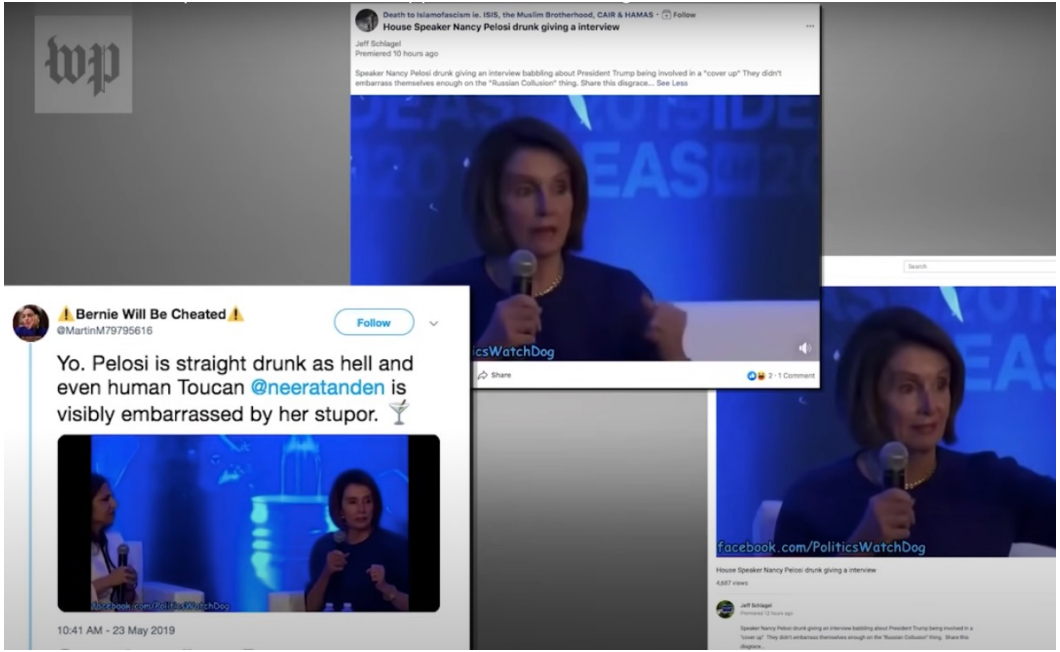


DEEPFAKE EXAMPLE

Nancy Pelosi deepfake
(Turton & Martin, 2020)

- artificially slowed-down video spread on Facebook
- challenge: deepfake identification and platform regulations



LITERATURE REVIEW

TABLE 3. SUMMARY AND METHODOLOGICAL PREFERENCES OF THE EXAMINED EMPIRICAL STUDIES (N=17).

Item	Prevalence
Examined groups of people	Experiments: 1 study: n= 30; 1 study: n=2.005 No groups of people were examined: 15
Main method applied	Content analysis: 1 Experiment: 16
Geographical place(s) of data collection	Canada: 2 China: 1 France: 1 Germany: 1 Jordan: 1 Korea: 1 the Netherlands: 1 Norway: 1 Serbia: 1 United Arabian Emirates: 1 United Kingdom: 1 United States: 5
Dataset of deepfakes examined	Mean: n=240; 1 study: n=2; 1 study: n=3; 1 study: n=4; 1 study: n=8; 1 study: n=48; 2 studies: n=49; 1 study: n=100; 1 study: n=175; 1 study: n=600; 1 study: n=620;
Different type of dataset	1 study: n=640; 1 study: n=820; 3 studies: not applicable 1 study: n=84 (news articles)