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Deception as Process and Content: Mapping Research on Deception Published in SJR's Top-Ranked Communication Studies Journals*

Abstract: This paper reviews the recent literature in the field of communication sciences in terms of analyzing the research on deception, misinformation, and information misuse. A scoping review of the literature presented here focuses on deception studies published in top SJR journals in the years 2020–2022. Two research approaches can be distinguished in this field: analyzing the process or analyzing the content. For the most part, researchers

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analyze deception from the perspective of the communication process, there are far fewer studies on the content of deceptive messages. Original papers comprise the majority of studies on deception in the communications field, and, among them, dominate the research on social media. In recent years, research on instant messaging services such as WhatsApp has been increasingly popular, but there has been a lack of studies on Telegram, which is growing in importance for communication processes. This work contributes to the literature on deception by introducing a novel literature sampling method and investigating two dimensions of deception analysis, of which one is far more represented in communication studies.

Keywords: *communication studies, deception, fake news, misinformation, disinformation, information misuse, Scimago Journal and Country Rank, SJR*

Introduction

In the 21st century, social attention focuses intensively on disinformation and related issues. Although fake news has been present in the media space since the very beginning of the existence of mass media (Burkhardt, 2017; Tucher, 2022), the events of recent years have brought renewed interest in this problem, both among researchers and in the general discourse. The reasons for this can be found in several issues. First of all, the Web 2.0 era has caused changes in the information and communication space, primarily introducing new, non-professional sources of media content. In this context, the discussion is increasingly focused not only on disinformation in the form of individual false messages in the media but also on the disinformation society or the era of so-called post-truth (Vasu et al., 2018; Yerlikaya & Aslan, 2020). This emphasizes that we live in times when both the availability of truth, its attractiveness, and the demand for it are decreasing. Secondly, in 2020, the COVID-19 pandemic made disinformation processes particularly visible, and the issue of fake news attracted the attention not only of researchers and observers of social life but also of governments and public institutions. It has begun to be noticed that fake news has visible social effects and can influence not only our views and decisions but also significantly hinder the implementation of many important public tasks, such as public health management or climate change, in the political and public discourses and media. Thirdly, the Russian invasion of Ukraine in 2021 showed that misleading and deceptive information is an effective tool of information or hybrid warfare (Splitsboel, 2017), generating high public involvement and triggering mass public emotions.

Considering the above reasons, it can be noted that the problem of information misuse and media mistrust, as its consequence, has been one of the most concerning issues in communication studies lately (Kaiser et al., 2022; Walther et al., 2022; Flew, 2021; Clementson, 2019). In the face of “the rise of misinformation society” (Pickard, 2019, p. 119), communication research focuses on the causes and consequences of deception production, spread, and reception via all media types. Systematic reviews, such as this one, provide space for summaries of the research conducted so far in order to indicate trends

and point out underrepresented fields. In this study, we would like to present a synthesis of the latest (2020–2022) research approaches on misinformation, fake news, disinformation, and misperception in the field of communication. Our goal was to map the issues that are of interest to researchers in the field of communication sciences. We wanted to verify that, as of 2020, the topics in this area were mainly concerned with COVID-19. Undoubtedly, the pandemic has been of great interest to communication scholars, but we wanted to find out what issues besides the pandemic are currently represented and which are underrepresented. We did the systematic literature review according to criteria different from those used so far. In our sample, we focused on articles published in top SJR journals because we were particularly concerned with analyzing the studies within the most impactful journals.

We use the term “deception”, introduced by Chadwick and Stenyer (2022), as a bridging concept to cover concepts of misinformation, disinformation, and misperceptions. In this article, whenever we refer to deception, we mean either mis – or disinformation, fake news, or other forms of information misuse. However, the term “deception” is operational for the article to provide concise language (instead of mentioning all forms of information misuse each time).

This systematic literature review meets the criteria of the scoping review, also known as mapping. According to Paré et al. (2014), scoping reviews aim to indicate the potential size and nature of the literature on a given topic. This article meets this assumption by indicating the size of the literature on deception among SJR’s top-ranked journals and by diving into the content of this literature to map its nature. Therefore, no summary of previous reviews is provided in the article.

Our study was conducted in order to answer the following research questions pertaining to articles about information misuse published in SJR’s top-ranked journals in the years 2020–2022:

- What is the overtime distribution of articles, and in which scientific journals are they published?
- How many research and review articles are published?
- What is the accessibility of those articles?
- What are the main findings of the review articles?
- What are the most common areas of study and research approaches used in the research articles?

The analysis related to the final research question led us to the observation that some studies are focused on content (static subject of research) while others put emphasis on process (dynamic subject of research). As a result of this observation, we have developed a new analytical framework for reviewing research articles: the Process/Content (P/C) framework, which we introduce in this article.

Although our research questions are descriptive, we also provide possible explanations, and we discuss our results in relation to previous studies synthesized in the article.

Materials and Methods

Like most of the review studies, our approach was based on a search of key terms, yet, unlike most of the reviews, we have focused on specific, purposefully selected journals – ranked best in Scimago Journal and Country Rank under the “communication” category within the years 2020–2022. Rather than the big picture of deception studies, this paper presents an overview of studies published in the top-ranked journals to provide more in-depth characteristics of what’s considered the top-ranked research.

Our systematic review, focused on deception issue studies published in top SJR journals, followed a specific sample selection process. The detection of the top-ranked journals in three years was conducted in accordance with a specific procedure. For each year (2020, 2021, 2022), we have downloaded the SJR ranking of top journals within the category “communication” according to “citable docs” criteria. For each ranking, we have separated the first 50 journals. Those three lists were then merged into one, excluding journals that have not appeared in the top 50 in all three years’ ranking. As a result, we have created a list of 36 journals that were placed in the top 50 each year in the 2020–2022 span.

After the selection of journals, we applied further exclusion criteria for the sampling process. All 36 journals offered articles in English, and one (*Comunicar*) also in Spanish, so there was no need to apply language criteria of exclusion. Another criterion was the article type. Following Melchior and Oliveira (2021), we have included only full-length articles, yet, unlike Melchior & Oliveira, we also included review articles. Overall, the included articles formed a set of 6592 items, which were then manually reviewed by authors in search of chosen terms in their titles, abstracts, and keywords. The searched terms were *infodemic*, *infodemia*, *misinformation*, *disinformation*, and *fake news*. The term *infodemic*, although coined in 2003 (Rothkopf, 2003), recently gained popularity due to the COVID-19 pandemic. *Infodemic* (Moretti et al., 2022; Brito & Miranda, 2021; Pascual-Ferrá et al., 2021) or *infodemia* (Popiołek et al., 2021) have been used by academics discussing COVID-related deception. The terms *misinformation*, *disinformation*, and *fake news* were applied in this study as they were previously successfully used in the review articles (Damstra et al., 2021; Kapantai et al., 2021; Melchior & Oliveira, 2021; Valverde-Berrocoso et al., 2022).

Although in the article we use the term *deception*, it was not used in the sampling process, as it is a very wide term, which includes (as a bridging concept) all five key terms we used. Five key terms were searched directly in articles, so there was no issue of duplicated results.

The keywords searching process was conducted on journals’ websites and covered 36 journals, 150 volumes, 662 issues (within which 8 were special issues or had special sections devoted to anti-science beliefs, mis/disinformation, or news-making in Russia), and 6592 articles, from which 312 articles were included for further study, as they mentioned searched terms in their titles, abstracts or keywords.

The selected 312 articles were divided according to type. At first, we separated and qualitatively analyzed the review articles. This step was necessary to ensure that our research

would not depart from other reviews in this scope. We have summarized review articles before further analysis in order to use the reviewed authors' findings and provide coherence and connection within reviewing studies on deception in communication.

Other articles have undergone mixed-methods, two-step reviews using NVivo 14 software. Step one was a quantitative summary of articles, using their titles, abstracts, and keywords, following the method applied by Melchior and Oliveira (2021). The word frequency analysis was performed using stemmed words, so each result represents a wider perspective on a specific field, not just the given term itself.

The initial quantitative summary (step 1) was followed by a qualitative review (step 2). All articles have been manually top-down coded. According to their methodological approaches and the nature of deception studied. For the methodological analysis, we have applied the following coding decisions:

- **Nonempirical:** Theoretical discussions lack a method section or explicitly state their nonempirical nature, with conclusions based on theoretical considerations and critical analysis.
- **Qualitative:** Authors indicate the use of qualitative methods or specify methods with qualitative characteristics.
- **Quantitative:** Authors indicate the use of quantitative methods or specify methods that are distinctly quantitative.
- **Mixed:** Authors indicate the use of mixed methods or specify methods that encompass both qualitative and quantitative approaches.

For the analysis of deception framing, we have introduced a new framework: codes divided articles into three groups, and the axis of division was the dynamic of deception researched, whether it was static (content), dynamic (process), or both.

The analytic process of qualitative summary was conducted as follows:

Initial reading of articles → re-reading of articles and top-down coding → summarizing.

Overall results

Overtime distribution

Articles meeting our inclusion criteria were published in 27 out of 36 studied journals. Table 1 presents the distribution of the analyzed articles by journal and according to year of publication. There is a slight increase in the number of publications over time, which could be caused by the pandemic and the infodemic related to it. Six journals have published over half of the analyzed articles, with a leading position of Social Media & Society: 49 articles (15,71%). The journals that published most of the articles could be divided into two groups: dedicated to contemporary challenges of society (Social Media and Society, New Media and Society, Information, Communication and Society) and dedicated to journalism (Journalism Studies, Journalism, Digital Journalism).

Due to the fact that journals vary in the number of articles they publish, we also checked how many deception-related original articles were published in relation to the total number of original articles published by a given journal. These results show that the average percentage of original articles regarding deception per journal was 5.86, with a median of 5.07%. Journals most interested in this topic were “Digital Journalism” (14.08%), “Political Communication” (12.73%), “Social Media and Society” (11.81%) and “Comunicar” (10%). This variable reflects the overall high interest in deception, not only within journals focused on journalism and communication but also on political issues.

Table 1. Over time distribution of analyzed articles

Journal name	2020	2021	2022	total per journal	% within journal
Annals of the International Communication Association	1	0	1	2	3.57%
Big Data and Society	2	7	1	10	5.00%
Communication Research	4	0	5	9	6.21%
Communication Theory	0	3	2	5	5.38%
Comunicar	1	3	8	12	10.00%
Cyberpsychology, Behavior, and Social Networking	0	2	1	3	1.24%
Digital Journalism	7	6	17	30	14.08%
European Journal of Communication	2	2	2	6	6.67%
Group Processes and Intergroup Relations	0	5	0	5	1.97%
Human Communication Research	2	1	1	4	6.56%
Information, Communication & Society	6	5	8	19	4.92%
International Journal of Press/Politics	7	1	2	10	9.43%
Internet Research	1	0	4	5	1.94%
Journal of Communication	2	1	6	9	8.26%
Journalism	5	7	9	21	5.02%
Journalism and Mass Communication Quarterly	5	2	1	8	6.25%
Journalism Studies	6	6	6	18	5.07%
Mass Communication and Society	5	3	2	10	9.26%
Media Psychology	0	0	2	2	1.85%
Media, Culture and Society	4	4	2	10	3.50%
Mobile Media and Communication	0	1	0	1	1.35%
New Media and Society	7	7	8	22	5.38%
Political Communication	9	2	3	14	12.73%
Public Opinion Quarterly	2	1	2	5	3.68%
Public Relations Review	2	7	1	10	3.65%
Social Media and Society	15	19	15	49	11.81%
Telematics and Informatics	0	5	8	13	3.57%
total per year	95	100	117	312	

Source: own study.

Research and review articles distribution

Within the studied SJR's top-ranked journals, we have found nine review articles that meet our criteria. Table 2 presents the distribution of research and review articles, including their accessibility. The accessibility was assessed based on the original source access options (on each article's site on the journal website).

Table 2. Accessibility of analyzed articles

	research articles	review articles	overall
restricted access	163	6	169
free & open access	139	4	143
overall	302	10	312

Source: own study.

*Review articles**Summary of review articles*

As mentioned earlier, within SJR's top-ranked journals in the years 2020–2022, we have found ten review articles that mentioned fake news, infodemic(mia), or mis-/disinformation in their titles, abstracts, or keywords. Four of them were available in open/free access, and yearly distribution was 3 in 2020, 3 in 2021, and 4 in 2022. Table 3 presents a summary of review articles included in our study, taking into account their accessibility and listing them in chronological order. Not all authors mentioned the way they gathered data for their reviews. Those who described their methodological approaches were searching for articles in databases, and three of them also used Google Scholar.

The summary of the review articles' methodology reveals the atypicality of our study, which was based on a manual review of all journals in search of articles published in regular or special issues, instead of an automated keyword search conducted in databases. Only Wang et al. (2021) based their article sampling on specific journals instead of databases, yet their study covered only articles' titles and abstracts, while we also searched all articles' keywords. Those, however, are not always available on the official sites of journals (which were searched by Wang et al.) – sometimes, they are only available in the articles' files.

Overall, the summary of review articles regarding information misuse published in SJR's top-ranked journals in the years 2020–2022 reveals that the following issues have been addressed so far: mainstream media and social media disinformation, media diversity, public relations, media literacy, and fact-checking.

Table 3. Summary of review articles regarding deception

Journal name	Authors	Title	Method	Main findings	Accessibility
Annals of the International Communication Association	Tsfati et al. (2020)	<i>Causes and consequences of mainstream media dissemination of fake news: literature review and synthesis</i>	Not mentioned	<ul style="list-style-type: none"> - significant role of mainstream news media in dissemination of fake news - mainstream media cover fake news due to the news values of these stories and sometimes fit their ideological tendencies - mainstream media's coverage of fake news is highly influencing and audience may internalize the fake information even when it was tagged as 'fake news' 	open/free
Digital Journalism	Loeberbach et al. (2020)	<i>The Unified Framework of Media Diversity: A Systematic Literature Review</i>	Database search (Scopus, Web of Science, Ebsco Communication & Mass Media Complete)	<ul style="list-style-type: none"> - diversity is an important concept in understanding news landscape - diverse media content needs to satisfy the users (consumers) 	open/free
Journalism Studies	Joris et al. (2020)	<i>News Diversity Reconsidered: A Systematic Literature Review Unraveling the Diversity in Conceptualizations</i>	Database search (Web of Science, Proquest, EBSCOhost)	<ul style="list-style-type: none"> - current news diversity research is largely incomparable due to different conceptualizations - future diversity research should be more reluctant to hypothesize on news diversity in general 	restricted
Journalism Studies	Damstra et al. (2021)	<i>What Does Fake Look Like? A Review of the Literature on Intentional Deception in the News and on Social Media</i>	Google Scholar search	<ul style="list-style-type: none"> - elaboration of two sets of fake-news features: content features (ideological bias, use and presence of emotions, verifiability, use of headlines) and linguistic features (lexical diversity, capitalization, use of pronouns, length, informal language and swear, punctuation) 	open/free

Journal name	Authors	Title	Method	Main findings	Accessibility
New Media & Society	Kapantai et al. (2021)	<i>A systematic literature review on disinformation: Toward a unified taxonomical framework</i>	Database search (ACM Digital Library, IEEE Xplore Digital Library, Science Direct, SpringerLink, Scopus) and Google Scholar	<ul style="list-style-type: none"> – most of scientific studies introduce isolated approaches, which results in fragmentation of disinformation problem – the trend of algorithmic approaches results in gaps in explanation of rationale and conceptual model – authors elaborated unified typology framework for disinformation 	restricted
Public Relations Review	Wang et al. (2021)	<i>When public relations meets social media: A systematic review of social media related public relations research from 2006 to 2020</i>	14 journals; journals dedicated to public relations and top journals in the general field of communication and social media, based on their IFs in 2019 generated by the Web of Science	<ul style="list-style-type: none"> – social media have dramatically influenced the agenda of public relations research – there is need for studies more on fake news on social media, artificial intelligence on social media apps, and social media influencers 	restricted
Journalism Studies	Vinhas & Bastos (2022)	<i>Fact-Checking Misinformation: Eight Notes on Consensus Reality</i>	Not mentioned	<ul style="list-style-type: none"> – eight fundamental problems with fact-checking revolving around epistemology, methodology, implementation, polarization, bias, efficacy, ambiguity, ephemerality, objectivity, and criticism 	restricted
New Media & Society	Melchior & Oliveira (2022)	<i>Health-related fake news on social media platforms: A systematic literature review</i>	Database search (Scopus, Web of Science, Emerald, Wiley, PubMed) and Google Scholar	<ul style="list-style-type: none"> – lack of articles from knowledge management research in the area of health-related fake news – most studies focus on public's reaction to health-related fake news 	restricted

Journal name	Authors	Title	Method	Main findings	Accessibility
Communicar	Valverde-Berrocso et al. (2022)	<i>Disinformation and multiliteracy: A systematic review of the literature</i>	Database search (WoS, Scopus and ERIC) following PRISMA protocol	<ul style="list-style-type: none"> – conceptual network which allows to study key concepts of literacies and misinformation, and relationships between them – identification of main pedagogical approaches being used to address the problem of misinformation 	open/free
Internet Research	Wu et al. (2022)	<i>Fake news on the internet: a literature review, synthesis and directions for future research</i>	Database search (Web of Science Core Collection), input-process-output framework	<ul style="list-style-type: none"> – audience's awareness of fake news on the internet (FNI) remains insufficient to take precautionary measures – FNI may have potential value in interpreting the underlying social bonds that are at stake – it is necessary to update the existing theories or develop new theories to explain the effects of FNI 	restricted

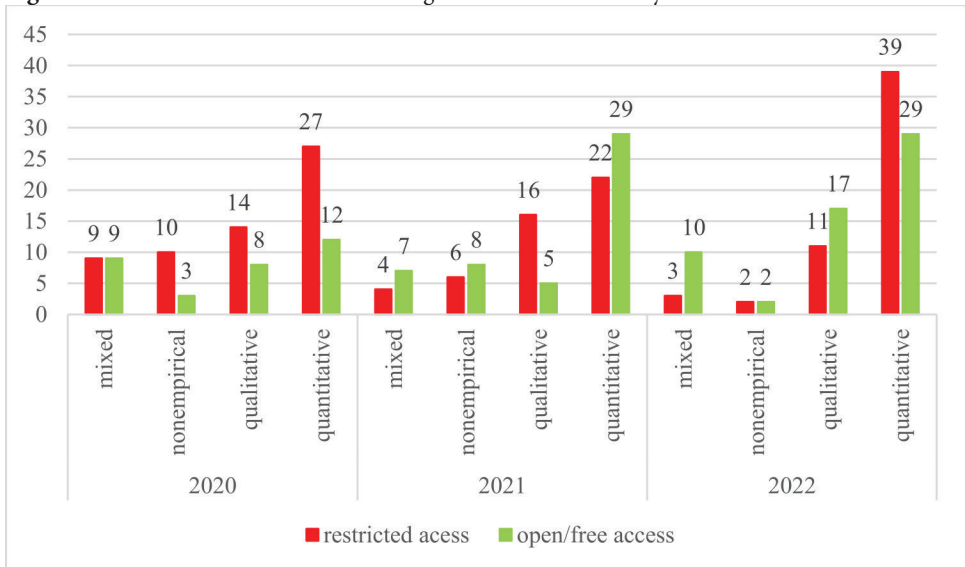
Source: own study.

Research articles

Articles' methods

We have recognized four groups of methods applied in the studied articles: mixed, qualitative, and quantitative (Melchior & Oliveira, 2021), as well as nonempirical. Figure 1 presents results in time and according to the articles' accessibility, and Table 4 presents overall results according to research methods and accessibility.

Figure 1. Studied articles' methods according to time and accessibility



Source: own study.

Table 4. Overall distribution of articles according to research methods and accessibility

	restricted access		open/free access		total
	articles	%	articles	%	
mixed	16	38,10%	26	61,90%	42
nonempirical	18	58,06%	13	41,94%	31
qualitative	41	57,75%	30	42,25%	71
quantitative	88	55,70%	70	44,30%	158

Source: own study.

Over half of the research articles applied quantitative methods (52.32%), and the use of those methods was increasing in time, from 39 in 2020 to 68 in 2022. Among empirical studies, mixed methods articles were the least common. These results are in opposition

The word cloud reveals three major areas of researchers' interest: politics, COVID-19, and sharing. Politics was mentioned in titles, abstracts, or keywords of 119 articles, sharing in 62 articles, and COVID-19 in 61. The results also highlight the leading role of platforms, journalists, facts, and the community in deception-related communication studies, as well as trust, relations, and corrective actions or behavior. The three main results of word frequency analysis are heterogeneous in their form: two are nouns, but one is a gerund. The interpretation of those results led us to the question of whether there are two major trends in communication research: one concentrated on content and one concentrated on processes.

Word frequency: Media type

Additionally, we have provided a top-down quantitative text search. For the best accuracy of the quantitative analysis, we have separated each article's title, abstract, and keywords in order to find articles focused on given issues, not only loosely mentioning them. The quantitative analyses were conducted according to three criteria: 1) type of media, 2) social media platform, and 3) type of deception. All the results were manually and qualitatively verified. Further in the text, we present search results, omitting search terms not present in the sample (with search result 0). The merged results for the type of media search are as follows:

- Social media – 151 articles
- Press – 16 articles
- TV/Television – 12 articles
- Newspaper(s) – 9 articles
- News site/News website – 1 article

The results reveal great differences in the use of given types of media as the research field. Almost half of the research articles (48.4%) point to social media as their scope of interest.

Word frequency: Social media platforms

As social media became the scope of interest for almost half of the studied articles, we searched further for specific platforms. The results cover Twitter instead of "X", as the platform rebranded in 2023, and the studied articles were published in the years 2020–2022. The following social media platforms were mentioned in the research material:

– Platform	number of articles
– Twitter	39
– Facebook	32
– WhatsApp	9
– Instagram	6
– Reddit	4
– YouTube	3

- Telegram 2
- Weibo 2
- WeChat 2

Results reveal the great popularity of Twitter, followed by Facebook. In our sample of review articles, this issue was also addressed by Melchior and Oliveira (2022), Wu et al. (2022), and Wang et al. (2021). In all three studies, Twitter also resulted as the most often studied platform, and only in the study by Melchior and Oliveira (2022), Facebook was not the second most often analyzed social media platform (YouTube was).

A conceptual framework for deception review

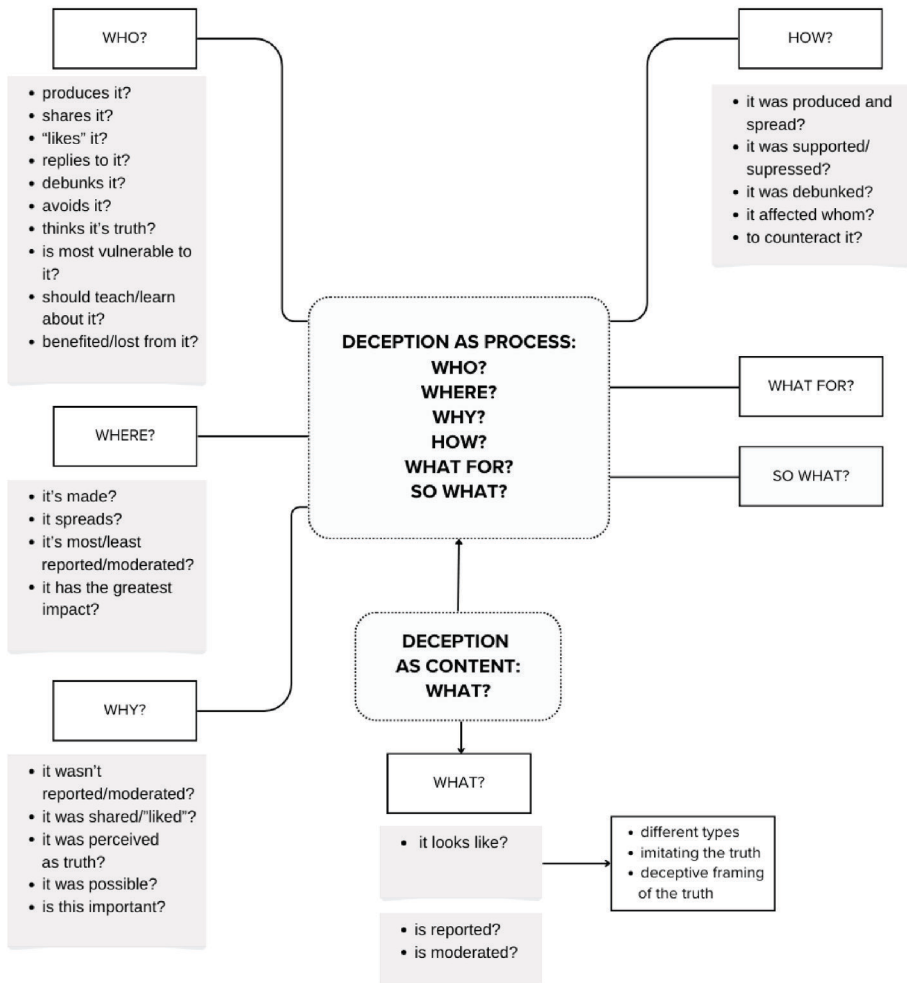
Previous review studies were focused on the detection of deception, its antecedents, and consequences, which were summarized in the *input-process-output* framework (Wu et al., 2022). In this study, we introduce a new *process/content (P/C)* conceptual framework for deception analysis, which focuses on the aims of the studied articles. While the IPO framework is focused on the production, spread, and consequences of deception, the *P/C* framework is not focused on the phrases of deception’s “life cycle”. The framework divides studies according to the criterion of the actual subject of the study. Some of the studies on the issue of deception deal with processes like miscommunication, misperception, inaccuracy sharing, etc., in a broad sense, while others analyzes deceitful content itself. Some studies consider both process and content.

The *P/C* framework, depicted in Figure 3, pays attention to how deception is framed in a given study – whether it is studied in a dynamic dimension (as a process) or in a static one (content).

This framework refers more to the articles’ objectives than the materials or methods, yet the latter might be helpful. Social network analysis is, for sure, a tool for process evaluation, while sentiment analysis aims directly at content. Yet, it has to be underlined that this framework applies to deception as a study subject, not the article’s methodology. The main questions to be asked when applying the framework are:

- (1) Does the study focus on deceptive content, or is the content just a starting point?
- (2) Is the deceptive content included in the study’s aim?
- (3) Do the conclusions and research questions concern deceptive content and/or process, including deception?

Figure 3. Visualization of the P/C framework. Example areas do not exhaust the possibilities, but are selected on the basis of the analyzed literature



Following Creswell's (2009) framework for methodology assessment, we have included notations based on uppercase and lowercase, where uppercase represents main scopes and lowercase represents supportive scopes. Below, we provide a few examples of P/C framework applications:

Example 1: The article is focused on legislation, and the authors study legal acts, so their study is focused on specific content, which is not deceptive. Yet, if authors study the

legal consequences of deception, deception is captured in such a study as a PROCESS, even though the study, in general, was focused on some content.

Example 2: The article grasps mechanisms of algorithmic moderation, so the authors research specific processes. Yet, if authors study what kind of deceitful content escapes the algorithmic moderation, in such a study, deception is captured as a CONTENT, even though the study, in general, was focused on some process.

Example 3: Deceitful content is used during an experiment as a tool to evaluate participants' self-efficacy. Only participants' responses are studied. In such cases, deception is captured as a PROCESS by the article's aims.

Example 4: Deceitful content is used during an experiment, but the authors measure not only participants' responses but also the influence of the given fake information type. In such cases, deception is framed most importantly as PROCESS but also as content.

Example 5: Deceitful content is studied in order to measure the most frequent themes and means of expression, as well as their popularity over time. In such cases, deception is framed as CONTENT/process.

Example 6: Deceitful content is studied in order to measure the most frequent themes and means of expression, as well as how the specific type of content correlates with sharing patterns in the media ecosystem. In such cases, deception is framed as CONTENT/PROCESS.

Using the *P/C* framework, we have analyzed all research articles from the sample. This led us to the conclusion that keyword-based sampling is not the perfect way to acquire deception-related articles for review. The 100 (33.11%) articles did not meet the conditions of the *P/C* framework, as their aims and scope were not focused on deception at all. In those articles, deception was treated as a background for the studied phenomenon, either its cause or a possible consequence. For those articles, the *P/C* framework was not applicable. For example, Schulz et al. (2020) stated that their study “aims to investigate the relationships between citizens' populist attitudes, perceptions of public opinion, and perceptions of mainstream news media”. Another example is the article by Anderson (2021), which aims to:

“uncover the intellectual, economic, and methodological structures that have led to the recent emergence of a particular notion of digital communication on social media platforms, one that emphasizes the power of (false) media messages to cause irrational political behavior and combines an individual-level understanding of media effects with a networked notion of society and information diffusion”.

This article is focused on platforms and their effects rather than on deception. The searched keyword appears in Buerger's (2021) abstract:

“Drawing on data collected through ethnographic observation and interviews, the article explores two primary research questions: (1) how do the external counterspeech actions of group members work to counter hatred (and, sometimes, misinformation)? and (2) how do the internal practices of the group keep members engaged?”

Yet, the article focuses on online hate speech, not on misinformation. However, it is worth mentioning that while the number of articles loosely treating deception was decreasing in time (36 in 2020, 36 in 2021, 28 in 2022), those focused strictly on deception were increasing (56 in 2020, 61 in 2021, and 85 in 2022).

The remaining 202 articles, which met the criteria of the *P/C* framework, focused on deception in the following way:

- PROCESS – 137 articles (82 in restricted access);
- PROCESS/content – 14 articles (10 in restricted access);
- PROCESS/CONTENT – 32 articles (13 in restricted access);
- process/CONTENT – 11 articles (6 in restricted access);
- CONTENT – 8 articles (2 in restricted access).

Discussion

Our scoping literature review reveals some key characteristics of deception-related research published in SJR's top journals. Firstly, there are only 36 journals that scored top 50 in the years 2020, 2021, and 2022 in the Scimago Journal Rank. Among these 36 journals, only 27 published full-length original articles, including the terms *infodemic*, *infodemia*, *misinformation*, *disinformation*, and *fake news* in their titles, abstracts, and keywords. The overall number of articles mentioning inclusion criteria was 312.

Secondly, among these 312 articles, ten review articles were published, of which most sampled studies using databases. Issues addressed in those reviews were mainstream and social media disinformation, media diversity, public relations, media literacy, and fact-checking.

Thirdly, research articles comprise the majority of studies on deception in the communications field and, among them, dominate the research on social media. The dominance of research papers is typical in scientific circulation, even though the number of review papers indexed in databases has been increasing dramatically in recent years (Kraus et al., 2022). Here, it is worth noting two factors that, in addition, may have been important in determining the predominance of research papers over review articles. First is of a practical nature – preparation of review articles is time-consuming and requires access to publications that are not always available free of charge, so there is also a need for funding. The second reason could be the global circumstances: there was an immediate need to counteract COVID-related disinformation, which mobilized authors for research

within that scope. As the pandemic was just declared, there were very few COVID-specific communication studies to review.

Fourthly, over half of the articles (54.17%) were published in restricted access. This seems interesting because, with the relatively high level of interest in this problem, the availability of scientific studies in this area seems crucial not only to understanding but especially to countering the problem. While there is a discussion about science's growing difficulties for non-specialists to understand (Hayes, 1992), the financial barriers in science are also one of the most significant issues that affect both non-specialists and researchers (Vuong, 2017). The open science movement is perceived as a way to counteract questionable research practices, replication crises, and fraud (Spellman et al., 2018). Our study covers the top-ranked journals, and these results show the inaccessibility of high-quality research on deception. Again, there are specific journals with open-access policies, which significantly improve the accessibility results of our study. *Social Media and Society* (49 articles), *Comunicar* (12 articles), and *Big Data and Society* (10 articles) – those three journals are responsible for 51.08% of all free-of-charge articles in our study.

Fifthly, almost half of the research articles (48.4%) point to social media as their scope of interest. These results coincide with Tsfati et al. (2022), who revealed limited scholarly attention directed toward mainstream media. It may be caused by the overall character of given media types – social media are usually associated with greater users' control over content (Del Vicario et al., 2016), while media agencies are obligated to follow a set of rules regarding press policy and responsibility. Since the corporations behind social media platforms determine themselves as “technology companies”, not “content creators” (Bogost, 2016; Kreft, 2019), it naturally makes social media a space where misinformation is easier to input or to spread organically. Additionally, the research conducted by Vosoughi, Roy and Aral (2018) proves that false news reaches a greater audience and spreads faster than accurate news, making it an easily visible and attractive space for deception research in the area of communication. On the other hand, the news media also use social media as sources on an everyday basis (Paulussen & Harder, 2014), which creates the risk of misinformation getting into the news media. This raises the question: does the small number of studies indicate that this problem does not exist, or is research in the news media underrepresented for some other reason? Undoubtedly, this area is worth exploring.

In the area of social media analyses, it is also interesting to know which platforms are most frequently analyzed. Our research shows that Facebook and Twitter dominate, which seems to be a natural consequence of the popularity of these platforms. Twitter is recognized as one of the most popular online information sources, and studies using its API are popular in general, not only in communication studies (Dongo et al., 2021). It is interesting, however, that while research on WhatsApp is relatively popular (9 articles), there is an underrepresentation of research on Telegram (2 articles).

Lastly, our results also suggest that deception framed solely as content is studied very rarely, compared to studies focused solely on the processual dimension of information

misuse. Studies focused on both process and content are also not so common, which may be caused by their time-consuming character and the need for the application of different methodologies. Examining content for deception is the domain of fact-checkers rather than researchers. The latter relies mostly on content that has already been adequately verified for veracity. However, studies of deception content appear to be underrepresented. The question that arises here is what this may be due to. The field of research seems to be relatively broad, as it is possible to study in this context not only the veracity and falsity of individual messages but also to conduct, for example, sentiment analysis, analysis of deceptive narratives, or deceptive language. It would be useful to look at whether this type of research is conducted more often in other disciplines, such as political science or linguistics.

Conclusion

In conclusion, in recent years, research on deceptive communication in SJR's top-ranked journals has been developing rapidly, and the vast majority of research work has focused on information distortion processes in various dimensions. Studies on communication in the era of the COVID-19 pandemic, deceptive communication in relation to politics, and the process of spreading false/deceptive information continue to dominate. The most popular media studied are social media platforms, of which X (Twitter) and Facebook are the most common subjects of analysis. SJR's top-ranked journals publish mostly quantitative studies on deception, access to which is severely limited. Research on deception in terms of process is often undertaken, whereas research on deceptive content appears to be underrepresented.

Limitations and further research

Systematic literature reviews are always challenging due to the extensive research material and various aspects that require examination. Despite all efforts to ensure research reliability, this study has its limitations. As our goal was to focus on SJR's top-ranked journals, the sampling process was limited by our inclusion criteria, such as the arbitrarily applied number of 50 top journals, the requirement for a top 50 position each year, and the chosen search terms and form were limited to original articles. Our qualitative analyses were based on manual coding, so human errors in coding are possible. The P/C framework developed in this study may, therefore, be its greatest advantage and limitation at the same time. We were able to read and assess every article's aims and scopes, but at the same time, this framework is built upon only 302 articles, and it was not applicable to one-third of them. We encourage future authors to use and further develop this framework, as it shows research on deception from a different angle. Future research could also apply the P/C framework in reviews dedicated to deception in the current Russo-Ukrainian war in political and public discourse and media (with emphasis on Telegram).

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References:

- Anderson, C. W. (2021). Fake News is Not a Virus: On Platforms and Their Effects. *Communication Theory*, 31(1), 42–61. <https://doi.org/10.1093/ct/qtaa008>
- Bogost, I. (2016, August 3). Facebook Is Not a Technology Company. *The Atlantic*. <https://www.theatlantic.com/technology/archive/2016/08/facebook-is-not-a-technology-company/494183/>
- Boman, C. D., & Schneider, E. J. (2021). Finding an antidote: Testing the use of proactive crisis strategies to protect organizations from astroturf attacks. *Public Relations Review*, 47(1), 102004. <https://doi.org/10.1016/j.pubrev.2020.102004>
- Brito, D. V., & Miranda, D. (2021). Local public health professionals contribution to infodemic management. *European Journal of Public Health*, 31(3), ckab164.860. <https://doi.org/10.1093/eurpub/ckab164.860>
- Buerger, C. (2021). #iamhere: Collective Counterspeech and the Quest to Improve Online Discourse. *Social Media + Society*, 7(4). <https://doi.org/10.1177/20563051211063843>
- Burkhardt, J. M. (2017). History of fake news. *Library Technology Reports*, 53(8), 1–33.
- Chadwick, A., & Stanyer, J. (2022). Deception as a Bridging Concept in the Study of Disinformation, Misinformation, and Misperceptions: Toward a Holistic Framework. *Communication Theory*, 32(1), 1–24. <https://doi.org/10.1093/ct/qtob019>
- Clementson, D. E. (2019). Why Won't You Answer the Question? Mass-Mediated Deception Detection After Journalists' Accusations of Politicians' Evasion. *Journal of Communication*, 69(6), 674–695. <https://doi.org/10.1093/joc/jqz036>
- Creswell, J. W. (2009). *Research design: qualitative, quantitative and mixed methods approaches*. 3rd ed. SAGE.
- Damstra, A., Boomgaarden, H. G., Broda, E., Lindgren, E., Strömbäck, J., Tsfaty, Y., & Vliegenthart, R. (2021). What Does Fake Look Like? A Review of the Literature on Intentional Deception in the News and on Social Media. *Journalism Studies*, 22(14), 1947–1963, <https://doi.org/10.1080/1461670X.2021.1979423>
- Del Vicario, M., Bessi, A., Zollo, F., Petroni, F., Scala, A., Caldarelli, G., Stanley, H. E., & Quattrociocchi, W. (2016). The spreading of misinformation online. *Proceedings of the National Academy of Sciences of the United States of America*, 113, 554–559. <https://doi.org/10.1073/pnas.1517441113>
- Dongo, I., Cadinale, Y., Aguilera, A., Martínez, F., Quintero, Y., & Barrios, S. (2021). Web Scraping versus Twitter API: A Comparison for a Credibility Analysis. In M. Indrawan-Santiago, E. Pardede, I. L. Salvadori, M. Steinbauer, I. Khalil & G. Kotsis (Eds.), *iiWAS '20: Proceedings of the 22nd International Conference on Information Integration and Web-based Applications & Services* (pp. 263–273). Association for Computing Machinery. <https://doi.org/10.1145/3428757.3429104>
- Flew, T. (2021). The Global Trust Deficit Disorder: A Communications Perspective on Trust in the Time of Global Pandemics. *Journal of Communication*, 71(2), 163–186. <https://doi.org/10.1093/joc/jqab006>
- Hayes, D. P. (1992). The growing inaccessibility of science. *Nature*, 356, 739–740. <https://doi.org/10.1038/356739a0>

- Kaiser, J., Vaccar, C., & Chadwick, A. (2022). Partisan Blocking: Biased Responses to Shared Misinformation Contribute to Network Polarization on Social Media. *Journal of Communication*, 72(2), 214–240. <https://doi.org/10.1093/joc/jqac002>
- Kapantai, E., Christopoulou, A., Berberidis, C., & Peristeras, V. (2021). A systematic literature review on disinformation: Toward a unified taxonomical framework. *New Media & Society*, 23(5), 1301–1326. DOI: 10.1177/1461444820959296
- Kreft, J. (2019). *The power of algorithms: at the source of the power of Google and Facebook*. Jagiellonian University Press.
- Melchior, C., & Oliveira, M. (2021). Health-related fake news on social media platforms: A systematic literature review. *New Media & Society*, 24(6), 1500–1522. DOI: 10.1177/14614448211038762
- Moretti, V., Arnoldo, L., Valdi, G., Conte, A., Masoni, M., Guelfi, M. R., Anelli, F., & Brunelli, L. (2022). Digital Health Literacy and Infodemic: the impact on Italian medical students between 2019–2020. *European Journal of Public Health*, 32(3), ckac130.063. <https://doi.org/10.1093/eurpub/ckac130.063>
- Ormerod, P. C. (2019). A private enforcement remedy for information misuse. *Boston College law review*, 60(7), 1893–1948. <https://lira.bc.edu/files/pdf?fileid=09ddd93f-9d93-48fa-b692-77d22835c0d8>
- Paré, G., Trudel, M.-C., Jaana, M., & Kitsiou, S. (2014). Synthesizing information systems knowledge: A typology of literature reviews. *Information & Management*, 52(2), 183–199. <https://doi.org/10.1016/j.im.2014.08.008>
- Pascual-Ferrá, P., Alperstein, N., Barnett, D. J., & Rimal, R. N. (2021). Toxicity and verbal aggression on social media: Polarized discourse on wearing face masks during the COVID-19 pandemic. *Big Data & Society*, 8(1), 1–17. <https://doi.org/10.1177/20539517211023533>
- Paulussen, S., & Harder, R. A. (2014). Social Media References in Newspapers: Facebook, Twitter and YouTube as sources in newspaper journalism. *Journalism Practice*, 8(5), 542–551. <https://doi.org/10.1080/17512786.2014.894327>
- Pickard, V. (2016). Media Failures in the Age of Trump. *The Political Economy of Communication*, 4(2), 118–122. <http://polecom.org/index.php/polecom/article/viewFile/74/264>
- Popiołek, M., Hapek, M., & Barańska, M. (2019). Infodemia – an analysis of fake news in Polish news portals and traditional media during the Coronavirus pandemic. *Communication & Society*, 34(4), 81–98. DOI: 10.15581/003.34.4.81-98
- Rothkopf, D. J. (2003, May 11). When the Buzz Bites Back. *The Washington Post*. <https://www.washingtonpost.com/archive/opinions/2003/05/11/when-the-buzz-bites-back/bc8cd84f-cab6-4648-bf58-0277261af6cd/>
- Schulz, A., Wirth, W., & Müller, P. (2020). We Are the People and You Are Fake News: A Social Identity Approach to Populist Citizens' False Consensus and Hostile Media Perceptions. *Communication Research*, 47(2), 201–226. <https://doi.org/10.1177/0093650218794854>
- Spellman, B. A., Gilbert, E. A., & Corker, K. S. (2018). Open Science. In J. T. Wixted (Ed.), *Stevens' Handbook of Experimental Psychology and Cognitive Neuroscience*. <https://doi.org/10.1002/9781119170174.epcn519>
- Splidsboel Hansen, F. (2017). Russian hybrid warfare: A study of disinformation. *DIIS Report, No. 2017:06*. Danish Institute for International Studies (DIIS), Copenhagen. <https://www.econstor.eu/bitstream/10419/197644/1/896622703.pdf>
- Tucher, A. (2022). *Not Exactly Lying: Fake News and Fake Journalism in American History*. Columbia University Press.

- Valverde-Berrocoso, J., González-Fernández, A., & Acevedo-Borrega, J. (2022). Disinformation and multiliteracy: A systematic review of the literature. *Comunicar*, 30(70), 93–105. <https://doi.org/10.3916/C70-2022-08>
- Vasu, N., Ang, B., Teo, T. A., Jayakumar, S., Raizal, M., & Ahuja, J. (2018). Fake news: National security in the post-truth era. *S. Rajaratnam School of International Studies*. https://www.rsis.edu.sg/wp-content/uploads/2018/01/PR180313_Fake-News_WEB.pdf
- Vosoughi, S., Roy, D., & Aral, S. (2018). The spread of true and false news online. *Science*, 359, 1146–1151. DOI:10.1126/science.aap9559
- Vuong, Q.-H. (2017, December 12). Open data, open review and open dialogue in making social sciences plausible. *Nature: Scientific Data Updates*. <<http://blogs.nature.com/scientificdata/2017/12/12/authors-corner-open-data-open-review-and-open-dialogue-in-making-social-sciences-plausible/>>
- Walther, J. B., Lew, Z., Edwards, A. L., & Quick, J. (2022). The effect of social approval on perceptions following social media message sharing applied to fake news. *Journal of Communication*, 72(6), 661–674. <https://doi.org/10.1093/joc/jqac033>
- Wu, Y., Ngai, E. W. T., Wu, P., & Wu, C. (2022). Fake news on the internet: a literature review, synthesis and directions for future research. *Internet Research*, 32(5), 1662–1699. DOI 10.1108/INTR-05-2021-0294
- Yerlikaya, T., & Aslan, S. T. (2020). Social Media and Fake News in the Post-Truth Era. *Insight Turkey*, 22(2), 177–196. DOI: 10.25253/99.2020222.11