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How Do Journalists Seek Information from Sources? A Systematic Review

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Abstract

In producing news stories, journalists depend on information obtained from sources. This paper reviews the literature on journalists' information seeking. The 90 studies included in the review cover how journalists identify sources, interact with sources, interpret information, and manage sources. In addition to quality and accessibility, balance in the group of sources selected is an important criterion in journalists' identification of sources. However, the importance journalists assign to balance stands in contrast to the frequent finding of bias in their source selections. In interactions with sources, the sources frequently provide ideas for new stories in addition to information for current ones. This finding shows how multiple instances of information seeking coexist and combine into a mesh of intersecting information-seeking processes. In interpreting information, journalists are acutely aware that sources may have an agenda or be misinformed. While journalists praise information checking, they regularly bypass it or replace direct checks for information quality with indirect checks, such as whether the source appears trustworthy. In managing sources, journalists engage in boundary work to regulate their relationship with sources. They also cultivate long-term relationships with selected sources. The review findings are discussed with respect to how journalism shapes journalists' information seeking and what implications the findings have for information-behavior research in other domains.

Keywords: journalist, reporter, source, source selection, information seeking, information behavior

1 Introduction

Journalists depend on others for much of the information in their stories. The selection of these others – the sources – shapes the stories, thereby making journalists' information seeking key to their profession (Berkowitz, 2019; Gans, 2004). To provide their audiences with newsworthy stories, journalists must balance multiple concerns against one another in their information-seeking practices. This balancing complicates journalism and makes journalists' information seeking rich in considerations that are central to their work. It also makes journalists' information seeking of interest to the research community on information behavior/information practices (e.g., Bird-Meyer et al., 2019; Lopez et al., 2022). However, most of the research in this community bypasses the studies of journalists' information seeking. For example, Hertzum's (2014) review on source selection explicitly excludes studies of journalists.

At an overarching level, this study aims to contribute to existing research by merging journalism studies and information-behavior studies. The contribution consists of unravelling the considerations in how professional journalists seek information from sources and showcasing journalism as an important domain for information-behavior research. Hopefully, this contribution will inspire future information-behavior research by drawing attention to novel issues. Wilson (2000) defines information seeking as "the purposive seeking of information as a consequence of a need to satisfy some goal." In relation to journalists, information is sought from diverse sources with the goal of producing a news story. When the sources are persons, they tend to feature explicitly in the story as the suppliers of quotes, viewpoints, or analyses. However, documentary sources are also common. It should be noted that this study is about how journalists seek information, not about the stories they write on the basis of the retrieved information. The stories should satisfy criteria for newsworthiness (Caple, 2018). While these criteria influence journalists' information seeking, they do not determine its course. Other issues, such as source accessibility, are also influential.

The research on information seeking (e.g., Case & Given, 2016; Willson et al., 2022) spans studies of a wide range of groups – lay as well as professional. For many of these groups, information seeking is an activity that tends to recede into the background because it is ubiquitous but, most of the time, unremarkable (Case & Given, 2016). Journalism is an exception. Seeking information from sources is at the heart of what journalists do (Amend & Secko, 2012; Berkowitz, 2019; Gonen, 2018). Thus, it is a foreground issue in their work. This study investigates journalists' information seeking by reviewing the existing research. Specifically, the study asks the research question:

How do journalists seek information from sources?

In answering this question, the reviewed studies show that journalists' information seeking involves four stages: source identification, source interaction, information interpretation, and source management. The review findings elaborate the content of these four stages.

2 Method

Following procedures for systematic reviews (Littell et al., 2008), the author selected and analyzed 90 research papers.

2.1 Inclusion criteria

Seven criteria specified which papers to include in this review. To be included, a paper had to be: (1) about professional journalists, thereby excluding papers about journalism students and citizen journalists, (2) about journalists' practices, perceptions, and experiences, thereby excluding papers about other people's views on journalists, (3) about the finding, selection, management, or interaction with sources, thereby excluding papers about information exchange among journalists, (4) an empirical study of real-life journalism, thereby excluding conceptual papers, lab experiments, and reviews, (5) the most extensive version, if multiple versions existed, (6) a journal article, conference paper, or book chapter, and (7) in English. The first four criteria specified the content of the included papers. Specifically, the first criterion circumvented the debate about who qualifies as a journalist (Black, 2010) by defining journalists as those who work within mainstream news media such as newspapers, radio, and television. The fifth and sixth criteria served to bolster the quality of the included papers.

2.2 Paper selection

The selection of papers for the review involved four steps, see Figure 1. First, Google Scholar, JSTOR, Scopus, and Web of Science (core collection) were searched for references about journalists' information seeking. To be retrieved, a reference had to contain the term 'journalist' (or 'journalists' or 'reporter' or 'reporters') in the title. And it had to contain the term 'information seeking' (or 'source selection' or 'source selections' or 'selection of sources' or 'information behavior' or 'information behaviour') anywhere in the paper. The more specific terms (e.g., 'source selection') and more general terms (e.g., 'information behavior') were included to capture studies that used other labels for information seeking but still were about how journalists seek information from sources. A total of 649 references matched the queries, which were issued in October 2021. Second, duplicate references were removed and the remaining references were screened on the basis of their title and, if they passed the title screening, on the basis of their abstract. The screenings consisted of matching the title or abstract against the inclusion criteria. Third, the 120 retained references were looked up. While 116 of them could be accessed online in full text, 4 papers could not. One of these papers was replaced

with an earlier version of the same paper (Kruvand, 2012); the three others were requested from the authors. The authors of one paper supplied a full-text copy. Fourth, the full-text papers were matched against the inclusion criteria. This matching led to the exclusion of 28 papers (for information about why these papers were excluded, see Figure 1). The remaining 90 paper were included.

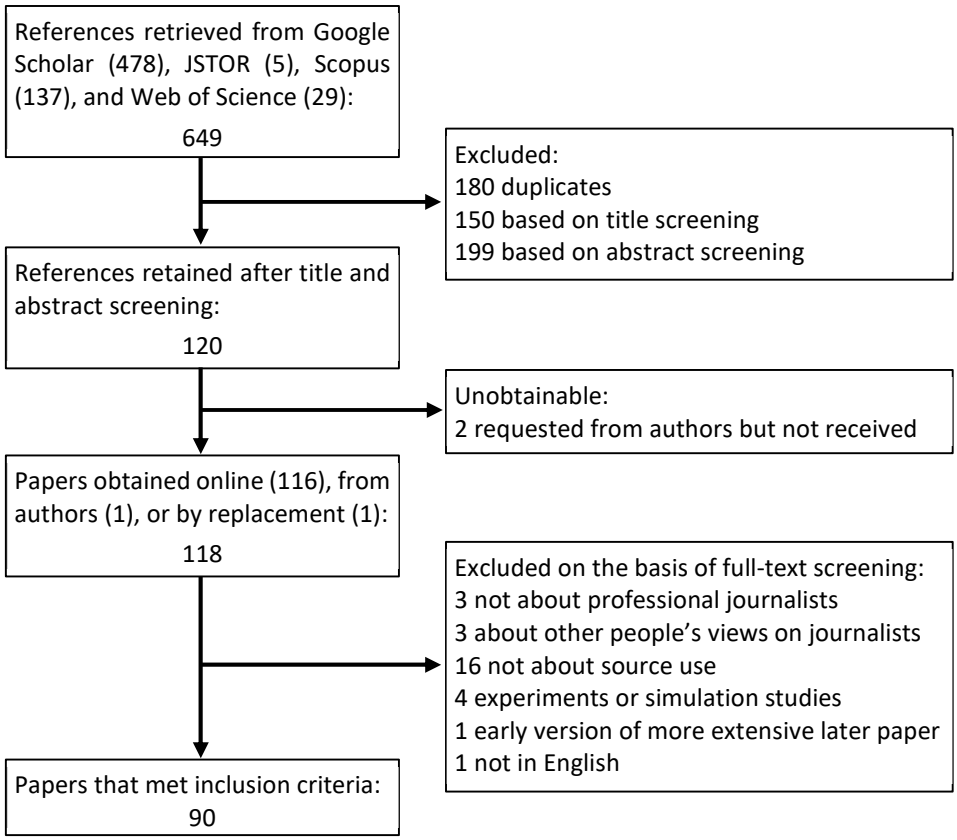

Figure 1. Paper-selection process

2.3 Data analysis

The data analysis was done in a way similar to that of Hertzum (2014). That is, the included papers were analyzed through a process that alternated between open-ended exploration of the papers and systematic walkthroughs of all 90 papers. The former served to identify topics in a data-driven manner, the latter to collect information about specified topics. Some topics were readily apparent, such as the criteria employed in selecting sources. This topic concerned the beginning of the information-seeking process. Other topics concerned other stages in this process. The topics identified in the first rounds of exploration and walkthrough represented four stages in journalists' information seeking: source identification, source interaction, information interpretation, and source management. In the subsequent rounds, these stages guided the open-ended explorations by suggesting four areas within

which to look for additional topics. This way, additional topics were realized gradually, for example the boundary work performed by journalists to maintain a professional distance to their sources.

The systematic walkthroughs ensured that all papers treating a specified topic were included in the analysis. A walkthrough consisted of examining each of the 90 papers in turn to identify and extract information about a specified topic. To avoid oversights, each walkthrough was restricted to one or a few topics. The extracted information was stored in spreadsheets and annotated with explanatory notes. In some cases, the spreadsheets were deductively sorted into pre-existing categories. For example, the source-selection criteria were categorized according to the established distinction between quality and accessibility (e.g., Fidel & Green, 2004; Hertzum, 2014), supplemented with a residual category. In other cases, categories emerged from the data in an inductive manner. For example, the topic about bias in journalists' source selections turned out to include studies of gender bias, ethnic bias, expert bias, and a bias favoring official sources over interest groups.

The data analysis resulted in eleven topics (for information about which papers treat which topics, see the appendix). Writing the review involved supplementing the information extracted from the papers with repeated revisits to the actual text of the reviewed papers to double check the extracted information and get more context.

3 Results

The 90 reviewed studies are listed in the appendix. They report from Europe (28), North America (28), Asia (15), Africa (7), Middle East (6), Australasia (2), Latin America (2), and multiple regions (2). While the first study is from 1975, half of them are from the period 2014-2021. Methodologically, the studies span surveys (37), interviews (25), news analyses (11), and multiple methods (17). All the multimethod studies combine two of the four methods surveys, interviews, news analyses, and observation. In total, the studies analyze data from 14,765 journalists.

3.1 Source identification

Figure 2 provides an up-front overview of the contents of the review. The figure shows the four stages in journalists' information seeking and the topics related to each stage. This section presents the topics related to the first stage, source identification.

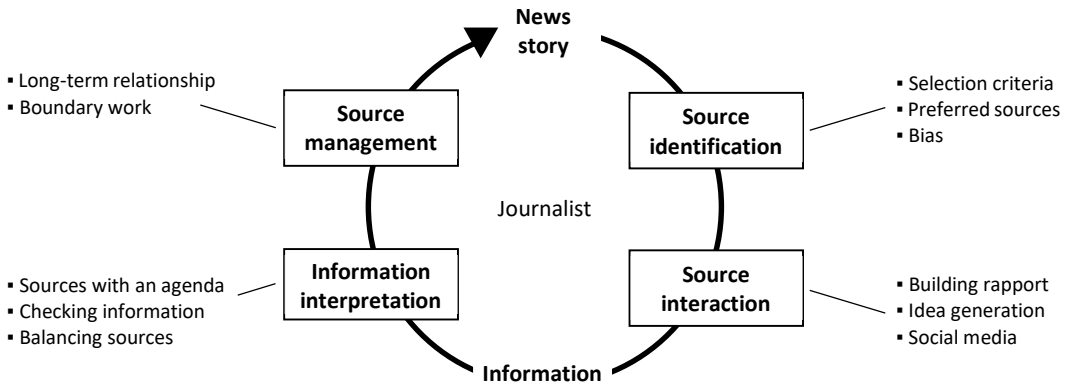

Figure 2. Journalists' information seeking

3.1.1 Criteria for source selection

In selecting their sources, journalists need quick access to quality information. The criteria employed in selecting sources are investigated in 51 of the 90 reviewed studies, see Table 1. Time pressure is the most frequently mentioned criterion. For many journalists, story ideas that are generated in the morning must result in completed stories by the end of the day, thereby compressing the time available for background research, source identification, source interactions, information interpretation, and story writing (Leask et al., 2010). Journalists prefer sources who understand and respect the fast pace of journalism, for example by responding quickly (e.g., Ivask et al., 2017; Kruvand, 2012). The time pressure also means that unawareness of the available sources is a major bottleneck, which often leads to the repeated use of familiar sources (e.g., Kjær & Langer, 2003). In addition, it is important that sources – expert sources in particular – are able to communicate clearly about complicated issues (e.g., Ahlmén-Laiho et al., 2014; Gesualdo et al., 2020).

Table 1. Criteria for source selection

Category	Criteria
Accessibility	Time pressure (23), unawareness of the available sources (16), provides digestible information (13), accessibility (10), ability to explain complicated information (8), responsive (7), convenience (6), ease of use (6), availability (5), stable IT operation (5), willingness to share information (5), familiar with source (4), financial cost (4), language (4), physical proximity (4), understands how journalists work (4), articulate (2), remote access (2), monitorability (1), non-bureaucratic (1)
Quality	Credible (10), up to date (6), accurate (5), quality (5), authoritative (4), knowledgeable (4), reliable (4), quoted in other media (3), relevant (3), trustworthy (3), deepens the context (2), eyewitness status (2), independent (2), necessary (2), prior experience with source (2), useful (2), comprehensive (1)
Other	balancing (10), ability to provide ready-made soundbites (7), risk to journalist's health and safety (6), sources acting superior (3), willingness to go on record (3),

	enjoyable to talk with (2), making the voice of ordinary citizens heard (2), variation in the sources used (2), celebrity status (1), exclusivity (1), knowing how to cite source (1), willingness to express opinion (1)

Note: The numbers in parentheses are the number of studies reporting each criterion.

Source selection is influenced by both accessibility and quality (e.g., Mansour, 2018; van der Meer et al., 2017). None of the reviewed studies tests whether accessibility influences source selection statistically more or less than quality. Rather, the studies treat a trade-off between accessibility and quality as integral to journalism. With respect to quality, the most frequently mentioned criteria are that sources must be credible and up to date. One way of ensuring credibility is to use sources with which the journalist has prior experience (e.g., Ahlmén-Laiho et al., 2014). Another way is to use sources that have been quoted in other media and, thereby, presumably vetted by them (e.g., Garbett et al., 2014). A third way is eyewitness status (e.g., Allgaier, 2011). The people who experienced an event first hand have a special status in journalism.

In addition to accessibility and quality, source selection is influenced by a number of other criteria, which are more specific to journalism. The most frequently mentioned of these criteria relates to achieving balance or variation by including sources with different views and backgrounds (e.g., Siyao & Sife, 2021). We return to the balance criterion in Section 3.3.3. The second most frequently mentioned criterion is the source's ability to provide ready-made soundbites (e.g., Tanner, 2004). In relation to this criterion, journalists also value expert sources who are willing to express opinions rather than merely state the facts (Ahlmén-Laiho et al., 2014). Another criterion is that journalists need to consider their health and safety in the selection of their sources. For example, Moges (2021) finds that fear of harassment leads journalists to "collect information from the top government officials, which they believe it is safe to quote."

3.1.2 Preferred sources

On the basis of the selection criteria, journalists identify and use a variety of sources. Table 2 gives the top-3 sources from the 24 studies that list the sources journalists use most frequently or deem most important. For stories about health and science, the expert is a top-3 source in 8 of 11 studies. Expert sources – such as academics, researchers, scientists, and healthcare providers – are high in credibility. They also show the prominence of human sources, who are the main providers of ready-made soundbites. Other top-3 human sources are activists, colleagues on staff, policy-makers, and the news audience. Written sources include academic journals, press releases, and websites. They are consulted more for ideas and background information than for the main content of health and science stories (Gilbert et al., 2021).

Table 2. Preferred sources

Top-3 sources	Reference
Health and science news	
Professionals (27%), scientists (21%), NGOs/activists (20%)	Allgaier (2011) [a]
Academics (48%), news media (20%), nonprofit sector (14%)	de Dobbelaer et al. (2017) [a]
Conferences (28%), researchers (21%), policy-makers (19%)	Elia (2019) [b]
News media (4.93), someone on staff (4.90), news audience (4.19)	Len-Ríos et al. (2009b) [c]
Personal network (88%), social media (67%), academic meeting (65%)	Nakada et al. (2015) [b]
Experts (98%), special literature (71%), press release (63%)	Schenk and Sonje (2000) [d]
Academic journal (85%), government website (61%), nonprofit website (58%)	Shoenberger and Rodgers (2017) [b]
Experts (64%), daily events (34%), radio (25%)	Siyao and Sife (2021) [b]
Academics/experts (3.97), academic publications (3.78), government (3.62)	Takahashi and Tandoc (2013) [e]
Scientist (73%), scientific journal (72%), other website (62%)	Viswanath et al. (2008) [b] (national media)
Healthcare provider (85%), website (72%), patient or advocacy organization (63%)	Viswanath et al. (2008) [b] (local media)
News in general	
Internet (4.17), informal sources (4.10), press releases (4.03)	Anwar et al. (2004) [f]
Informal sources (4.33), conversations (3.92), personal documents (3.71)	Anwar and Asghar (2009) [f]
Internet (76%), personal documents (48%), library (21%)	Chaudhry and Al-Sagheer (2011) [b]
Internet (89%), television (72%), newspaper (64%)	Chavan (2014) [b]
Government reports (41%), news agencies (25%), newspapers (21%)	Edem (1993) [b]
Internet (82%), on-location information gathering (81%), press release (63%)	Hossain and Islam (2012) [b]
Independent research institutions (50%), interest groups (31%), think thanks (19%)	Laursen and Trapp (2021) [b] (expert sources only)
Newspaper (67%), television (65%), magazine (14%)	Memon (2014) [g]
Experts (71%), government officials (61%), politicians (56%)	Raeymaeckers et al. (2015) [b]
Internet (83%), reports (77%), eyewitnesses (70%)	Sawant and Mokashi (2019) [b]
Phone interview (78%), in-person interview (66%), on-location reporting (57%)	Wihbey (2017) [b]
Local news	
Businesses (20%), ordinary citizens (19%), professionals (15%)	Ross (2007) [a] (human sources only)
Public relations staff contacts you (~52%), press release (~45%), news audience contacts you (~33%)	Tanner (2004) [b]
Crisis reporting	
First responders (91%), victims (78%), local government (74%)	Mayo-Cubero (2020) [b]

Notes: [a] Percent of news content that includes the sources. [b] Percent of journalists using the sources. [c] Frequency of source use on scale from 1 (not at all) to 7 (very often). [d] Percent of journalists rating sources as 'rather important' (as opposed to fairly importance and rather unimportant). [e] Frequency

of source use rated on a scale from 1 (not at all) to 5 (very frequent). [f] Importance of sources on a scale from 1 (not important) to 5 (critically important). [g] Percent of journalists using sources very often.

For news stories in general, the internet is a top-3 source in 5 of 10 studies and news media (newspapers, television, etc.) in 3 of the studies. These sources are accessible but provide information that has already been reported by others, thereby decreasing their news value. In contrast, eyewitnesses, on-location reporting, and some informal sources provide first-hand information about events. These sources are less frequent among the top-3 sources but also feature among the lower ranking sources (e.g., Edem, 1993; Raeymaeckers et al., 2015).

For local news, ordinary citizens and the (local) news audience are top-3 sources. While the news audience also appeared as a top source in health and science news, it was mostly to counterbalance expert sources. In local news, the citizens and audience are often primary sources (Raeymaeckers et al., 2015). Furthermore, audience members may initiate stories by contacting journalists (Tanner, 2004). This reversal of who initiates the information-seeking process resembles press releases and strengthens the local anchoring of the story.

For crisis reporting, journalists display a clear preference for sources who are at the scene. The top-3 sources include the first responders (firefighters, police, etc.) and the victims of the crisis. Access to these sources frequently involves that the journalist must also be at the scene. In conflict zones, journalists team up with local fixers who organize safe transportation, make interview arrangements, serve as translators, and scout out dangerous locations. The fixer has decisive influence on which sources are accessible to the journalist (Plaut & Klein, 2019). A good fixer can negotiate access to sources who are closer to events and have more to say.

3.1.3 Bias in source selection

In spite of the variety of sources used, 20 studies document biases in journalists' selection of their sources. The most commonly documented biases are underrepresentation of female and ethnic-minority sources compared to male and white sources (Armstrong, 2004; Mensa et al., 2021; Reich, 2014; Ross, 2007; Vu et al., 2018; Zeldes & Fico, 2005, 2010; Zeldes et al., 2007, 2012). These biases tend to be large. For example, Mensa et al. (2021) find 21% female and 79% male sources in the Chilean press and Zeldes et al. (2012) find 11% non-white and 89% white sources in the US press. Only a single study contradicts these biases and only partially: Len-Ríos et al. (2008) find that in covering cancer stories male journalists use more female than male sources, while female journalists use more male than female sources.

The reasons for these biases include that journalists consider gender and ethnic diversity irrelevant to their stories (Vandenberghe et al., 2020), that gender stereotypes pervade journalists' perceptions of

which topics men and women are knowledgeable about (Vu et al., 2018), and that gender and ethnic inequality among journalists is reproduced in their source selections (Ross, 2007). By juxtaposing the gender of journalists and sources, Voronova (2014) finds that male political journalists experience interactions with male sources as easier. In contrast, female political journalists experience interactions with male sources as immediate but gendered, while interactions with female sources provide for sharing common life experiences. Relatedly, Genovese (2015) finds that African American sports journalists have a same-race advantage and female sports journalists a different-gender advantage in getting sources' attention and establishing rapport. Such dynamics subtly influence source selections.

Beyond gender and ethnic bias, the use of expert sources is highly skewed. A small group of experts is consulted repeatedly, while many other experts are rarely or never used as sources (Kruvand, 2012). In health journalism, this bias extends to an underrepresentation of nurses compared to doctors, who are the default choice of a health expert (Mason et al., 2018). Journalists are often unaware of the range of nurses' work and do not know how to locate nurses to interview, thereby making nurses low in both accessibility and perceived quality. A further bias is the underrepresentation of interest groups, such as NGOs and protesters, compared to official sources, such as government and the police. Journalists perceive interest groups as holding predisposed or dissenting views and, therefore, treat them as supplementary sources, whereas official sources tend to be perceived as authoritative, impartial, and reflecting the majority view (Boyle, 2015; Jha, 2008; Towner et al., 2006).

3.2 Source interaction

When a source has been identified, the next stage in journalists' information seeking is the interaction with the source. The first activity in this stage is to build rapport.

3.2.1 Building rapport

Nine studies investigate the rapport journalists build with their sources. The need for building, rather than presuming, rapport is apparent in Ahlmén-Laiho et al. (2014), who document considerable prejudices in the relationship between journalists and doctors (a frequent group of expert sources). According to journalists, doctors commonly believe that: "Journalists twist things or don't report things accurately", "Journalists are after sensationalist pieces or have questionable motives", and "Journalists don't have enough training or background information to understand the medical topics they are reporting on". In their turn, journalists commonly believe that: "Doctors don't know how to express themselves in a way that non-medical professionals can understand", "Doctors have a personal agenda when collaborating with the media or are corrupt", and "Doctors don't appreciate journalists' skills and/or act superior or omnipotent". In addition to prejudices, sources may be reluctant to share information with journalists (Siyao & Sife, 2021).

Iturregui-Mardaras et al. (2020) emphasize that the journalist-source relationship must be cultivated through face-to-face interactions, especially during the early stages of the relationship. However, face-to-face interactions are often not feasible with distant sources. In the early interactions with a distant source, rapport is mainly established through various forms of verification (Wintterlin, 2020). If sources experience that the journalist takes a genuine interest in the story, then they begin to relax and focus on the content they can provide. Similarly, if journalists experience that a source provides informative and accurate information, then they begin to relax and focus on what they learn about the story. Later in the journalist-source interactions, rapport depends on a sense of having "similar patterns of judging what is relevant and trustworthy" (Wintterlin, 2020). This sense tends to develop more readily when the journalist and source share the same gender or race (Genovese, 2015; Voronova, 2014). Preparations prior to source interactions is another way for journalists to increase the likelihood of succeeding in building rapport. Such preparations consist of improving their personal understanding of the story by collecting background information (Attfield & Dowell, 2003), including background information about the source (Granado, 2011).

Eriksson and Östman (2013) find that journalists are quite polite during press briefings with governmental politicians. The journalists predominantly asked non-adversarial questions, and only one in ten questions probed the politicians for a rationale for their position or course of action. However, the politeness disappeared in the stories reporting from the press briefings. Nine in ten of these stories leveled criticism against the politicians interviewed at the press briefings (Eriksson & Östman, 2013). Experienced sources are ready for this shift from politeness to criticism but it, obviously, influences the depth of rapport that can be established.

3.2.2 Idea generation

Many journalists' work are structured by a news-production cycle that consists of an orientation phase during which story ideas are identified and discussed, a research and production phase during which selected stories are developed, an editing phase during which final changes are made, and an evaluation phase during which feedback on the published stories are relayed among editors and journalists (e.g., Hussain et al., 2021; Kjær & Langer, 2003). In this news-production cycle, the screening of other news media (usually in the morning) and the editorial meeting (at the end of the orientation phase) supply many story ideas. In addition, junior journalists depend on assignment editors for story ideas (Hussain et al., 2021). However, eight studies make the point that story ideas often emerge outside of journalism and are delivered to journalists during their interaction with their sources and audiences.

Viswanath et al. (2008) find that 52% of the surveyed health journalists often or very often get the initial idea for a story from a person with whom they are frequently in contact to obtain information.

This way of getting story ideas has a serendipitous element and requires that the journalists invest the resources it takes to know "how to position [themselves] in a spot to get a good story" (Bird-Meyer et al., 2019). In comparison, only 32% and 30% of the journalists often or very often get initial story ideas from a colleague or from personal experience, respectively (Viswanath et al., 2008). The importance of knowing how to position themselves in a good spot is also apparent in the study by Hussain et al. (2021). They find that the most important source of story ideas is for journalists to be on site and, thereby, have the opportunity to obtain ideas from the surroundings through observation and interviews. Relatedly, Len-Ríos et al. (2009b) report that the news audience is a frequent source of story ideas, more frequent than public relations staff and press releases.

Tanner (2004) confirms that the news audience is a frequent source of story ideas but finds that health journalists most frequently receive their story ideas from public relations staff who contacts them personally to pitch a story. In addition, several studies find that press releases are a frequent source of story ideas, particularly in the orientation phase (Hussain et al., 2021; Kjær & Langer, 2003; Tanner, 2004). This way, audiences and sources are not just consuming news stories and delivering information for the journalists' current stories. The audiences and sources also contribute ideas for future stories. Social media are becoming a popular channel for the interactions through which these contributions arise (Saldaña et al., 2017).

3.2.3 Social media

Ten studies document that social media have become an important channel for journalists' interactions with their sources. For example, Dashti et al. (2018) find that journalists use social media to follow daily events (88%), investigate events (81%), network (79%), exchange views (72%), and communicate with sources (64%). Similarly, Granado (2011) finds that journalists use social media for, among other things, contacting sources (80%), finding expert sources (78%), and obtaining story ideas (68%). The most frequently mentioned reason for journalists' use of social media is to stay up to date on trending topics (Dashti et al., 2018; Johnson et al., 2018; Mansour, 2018; Memon, 2019; Saldaña et al., 2017). For example, all 386 respondents in the study by Mansour (2018) consider this reason for using social media important or very important.

Johnson et al. (2018) contend that social media, Twitter in particular, serve as triggers in the sense that they are "not just keeping journalists up to date but pointing out topics the journalist should look into". This way, social media mainly contribute to the orientation phase by supporting journalists in following the news and monitoring potential sources; they contribute less to the subsequent phase of developing the identified stories (Johnson et al., 2018). Several studies support that social media serve as triggers by facilitating journalists in generating story ideas (Granado, 2011; Memon, 2019; Saldaña et al., 2017). However, there are also several studies that document social-media contributions to the

subsequent development of the identified stories. These studies find that social media ease the investigation of events (Dashti et al., 2018), the communication with sources (Kim, 2011), and the checking of material (Mansour, 2018). In addition, journalists use social media to provide additional material that supplements their stories, thereby extending their interactions with their sources and audiences (e.g., Kim, 2011).

Journalists use social media less often (Raeymaeckers et al., 2015) and more similarly (Delmastro & Splendore, 2021) than they use traditional media such as press releases and newspapers. Raeymaeckers et al. (2015) suggest that such findings are an indication that social media are still a novel technology that is in the process of being integrated in journalists' diverse practices. On a cautionary note, Granado (2011) quotes a science journalist for the remark that with social media "you are stuck in the office". That is, science journalists increasingly produce their stories in the isolation of their office, rather than by attending conferences, visiting laboratories, and meeting scientists.

3.3 Information interpretation

The third stage in journalists' information seeking is about interpreting the information obtained from their sources. Interpretation is crucial because sources may have a vested interest in a story or simply a partial perspective on it.

3.3.1 Sources with an agenda

In interpreting the information obtained from sources, journalists are acutely aware that sources may have an agenda. The agenda may be overt or covert and it may relate to personal gain, commercial interests, political views, religious convictions, group interests, and so forth. All 12 journalists in the study by Wintterlin (2020) expressed that "the first goal of every contact with a source is to discover his motives in order to be able to judge the information." In the 30 papers that mention source agendas, such agendas are investigated for two source groups in particular: public relations (PR) staff and interest groups.

PR staff feeds information to journalists through press conferences, press releases, and one-on-one interactions. Journalists are ambivalent about PR staff (de Dobbelaer et al., 2017; Furlan, 2012; Iturregui-Mardaras et al., 2020). On the one hand, they experience PR information negatively, maintain a critical attitude, and claim that they never copy PR information literally into their stories. These reservations stem from concerns about the quality of PR information, especially its impartiality. On the other hand, journalists make frequent use of PR information, in particular press releases, because it provides ready-made content that meets their need for easy and quick access to information. For example, 62% of a sample of about 1,630 Belgian journalists agree that the use of ready-made content is rising (Raeymaeckers et al., 2015).

Interest groups include activists, non-governmental organizations, social movements, anti-science groupings (such as climate-change skeptics), and the like. Journalists consider interest groups biased (Barr et al., 2011; Jha, 2008). For that reason, some journalists rarely use interest groups as sources (Jha, 2008; Towner et al., 2006). Only 44% of a sample of 119 science journalists regard representatives of interest groups as important sources (Schenk & Sonje, 2000). That said, several studies find that interest groups appear as sources about as frequently as government sources, but less frequently than expert sources (Johnson et al., 2018; Takahashi & Tandoc, 2013; Viswanath et al., 2008). To handle their reservations toward interest groups, journalists often position them as an alternative opinion in opposition to the official or expert source (Raeymaeckers et al., 2015; Ward, 2019).

3.3.2 Checking information

Checking the information obtained from sources is an important but also demanding part of journalists' work. Nineteen papers investigate journalists' views on checking information and their practices for doing it. The importance attached to checking information is apparent in findings that 52 of 118 Finnish journalists mention "facts have been checked" as a marker of quality journalism (Ahlmén-Laiho et al., 2014) and that Kuwaiti and Pakistani journalists rate fact checking of near critical importance to their work (Anwar et al., 2004; Anwar & Asghar, 2009). At the same time, multiple studies find that time pressure limits the amount of checking done (Backholm et al., 2017; Dijkstra et al., 2015; Ivask et al., 2017; Leask et al., 2010; Mutugi et al., 2020; Siyao & Sife, 2021; Wintterlin, 2020). For example, the television journalists in the study by Mutugi et al. (2020) feared that time spent checking information resulted in the loss of viewers, who would switch to the channels that were first with the news. The perceived importance of being first increased the risk of airing fake news.

Reich and Barnoy (2021) distinguish between non-conflictual stories and stories that involve conflicting views about the facts of the story or the meaning of events. They find that information is checked for 42% (non-conflictual) and 78% (conflictual) of stories. This difference contributed to making the reporting of conflictual stories twice as costly in terms of the time spent producing them. Due to legal, ethical, and security complexities, the conflictual stories were also more risky to report, thereby motivating the increased level of checking. In addition, journalists risk losing their credibility if they report unverified information that later turns out to be incorrect (Hussain et al., 2021). Online sources is a special concern because their quality is often questionable and difficult to ascertain (Dijkstra et al., 2015; Granado, 2011; Hussain et al., 2021). One study finds that guidelines for checking online information are "close to non-existent" (Backholm et al., 2017), another that as much as 37% of journalists claim they always check online information (Vergeer, 2018).

Diekerhof and Bakker (2012) find that experienced journalists believe they know when they need to check their sources. Checking was most frequently believed necessary when the journalist sensed that

the source had an interest in the issue, when the source wanted to remain anonymous, and when the information was easy to check. Reasons for not needing to check include a belief that if a source has already been quoted in other media, then they have done the checking (Garbett et al., 2014). Some journalists also believe it unnecessary to check the information provided by official, authoritative sources because "people in high positions cannot afford not to tell the truth as the personal consequences are too huge" (Diekerhof & Bakker, 2012). Finally, some journalists maintain a distinction between facts, which need checking, and opinions, which do not. A journalist in the study by Diekerhof and Bakker (2012) explains: "An opinion is true in itself, just like experiences. In my stories, I elaborate on different feelings and opinions. No need to check."

3.3.3 Balancing sources

As an alternative or supplement to checking information, ten papers find that journalists present contrasting views in an effort to create balance. Instead of pursuing the one true account of events, this approach seeks objectivity by balancing multiple views against one another. For example, Diekerhof and Bakker (2012) quote a journalist for saying: "I do not check what people tell me […], but I always arrange another voice with another opinion." The format is often to start with the facts or general ideas and then make a contrast with opinions that differ (Towner et al., 2006). In addition to acknowledging different voices, balancing has the advantage that it is more newsworthy to present a disagreement than to resolve it (Reich & Barnoy, 2021).

The reviewed papers document two kinds of source balancing. First, journalists balance sources in a same-level manner. This kind of balancing is common in stories about controversial issues and involves a source from each side in the controversy (Kruvand, 2012; Leask et al., 2010). However, granting each side the same level of coverage risks amplifying marginal opinions. For example, 40 of 44 environmental journalists agree that efforts to balance sources sometimes lead to biased climate-change stories that give undue weight to issues raised by the contrarians (Siyao & Sife, 2021). Second, journalists balance sources in a different-level manner. This kind of balancing commonly takes the form of an expert source coupled with a layperson, for example a doctor coupled with a patient (Reich & Barnoy, 2021; Tanner et al., 2015). While the expert provides knowledge about the issue, the layperson talks on the basis of life experiences (Saikkonen, 2019). The layperson gives a face to the issue and thereby makes the story more relatable.

3.4 Source management

The final stage in journalists' information seeking is source management. This stage cuts across the three other stages. It involves the relationship that may evolve between journalist and source and the work that goes into regulating the boundary between them.

3.4.1 Long-term relationship

There are limits to the level of trust and rapport that can be built during a single journalist-source interaction. Therefore, journalists' access to quality information sometimes depends on their ability to cultivate long-term relationships with sources in strategic positions. Ten papers discuss such long-term relationships. Every time a source provides information that turns out to be accurate, the journalist's trust in the source develops (Wintterlin, 2020). Similarly, every time the journalist turns out to be reliable, the source's trust in the journalist develops (Chibnall, 1975). The reciprocity also involves that both parties benefit from the relationship. Journalists receive information that is not otherwise available (Chibnall, 1975). They also get the opportunity to cross check information from their other sources against that from a trusted source. Long-term sources increase their access to the media because journalists are more likely to include information in their stories if it is from a source with whom the journalist has a relationship (van der Meer et al., 2017). In continuation of this finding, journalists expect source groups that want more media recognition to invest in developing relationships with journalists (Mason et al., 2018).

For some journalists, the long-term relationships evolve into friendships where the journalist and source meet regularly over drinks or a meal to exchange information as well as socialize. The time invested in these relationships may be considerable and is driven by "the expectation of long-term rather than short-term gain" (Chibnall, 1975). Other journalists agree that it is vital for them to nurse their sources but maintain a strictly professional relationship. They argue that crossing the line to friendship would make it hard to give the source the same treatment as everybody else if it at some point becomes relevant to write negatively about the source (Kjær & Langer, 2003). It lengthens the time for trusting relationships to develop that journalists may act differently during source interactions and story reporting. For example, sources must be prepared for journalists who act sympathetic to the sources' cause during interactions but write negatively about the cause afterward (Jha, 2008).

3.4.2 Boundary work

To maintain their credibility, journalists must negotiate multiple boundaries in their interactions with their sources. As described above, one of these boundaries is between forming long-term relationships with selected sources and maintaining the professional distance necessary to write negatively about them, if needed. Ten papers investigate different aspects of journalists' boundary work. Several of these papers show that the boundaries are gendered. For example, female sports journalists are cautious about appearing as though they are flirting with sources, but may still have to deal with unwanted advances from sources during interviews (Genovese, 2015). Similarly, many female political journalists consider it a non-option to go out for drinks with a male source to nurture

the relationship because that would be conceived as flirting by their sources and colleagues, thereby damaging their reputation (Voronova, 2014).

Another kind of boundary work is common among health and science journalists, who must often navigate between authoritative and alternative explanations. Often, journalists adopt a pluralistic approach by acknowledging that many types of expertise may be relevant (Saikkonen, 2019). This approach enables journalists to quote authoritative sources while showing that their expertise is not the only expertise on the topic. At other times, journalists adopt a framing approach by labelling their sources differently. For example, vaccine-skeptic sources have been labelled as "ideological", associated with "conspiracy theories", or even described as "paranoid" (Ward, 2019). Such framings involve that journalists take a stand, which may be necessary for them to remain credible to their main sources and audiences. However, prevailing opinions about which arguments are authoritative and questionable may shift over time. Thus, journalists continuously need to adjust their boundary work to position and reposition themselves in the debate (Ward, 2019). Still other journalists adopt an advocacy approach. For example, their level of commitment to environmental issues may make them identify with environmental scientists and explicitly promote their climate-change concerns (Burch, 2002). This approach is controversial because it is at odds with the objectivity ideal endorsed by most journalists (Towner et al., 2006).

Finally, journalists' boundary work can take the form of self-censorship, which involves negotiating the boundary between what it is safe and unsafe for the journalist to report. Journalists may bypass sources or choose against story angles for fear of harassment, intimidation, ridicule, or other repercussions (Moges, 2021). Self-censorship reduces the number of voices heard in the media by making journalism less critical toward those in positions of power. Thereby, it for example stands in contrast to the point of view that journalists have a role in providing possibilities for "little people" to make their voices heard (Allgaier, 2011).

4 Discussion

Journalists seek information from sources by iterating through the activities of source identification, source interaction, information interpretation, and source management. These activities are integrated with the use of the obtained information for producing news stories that are accurate, newsworthy, and delivered within deadline.

4.1 Journalists' information seeking

Journalists' information seeking is shaped by their profession. To contextualize the review findings, they will be discussed in relation to four characteristics of journalism: Journalists consume information in order to produce information, journalists are in constant need of story ideas, journalists have a

responsibility to check the information they obtain from sources, and journalism is evolving in response to the possibilities offered by technology.

Journalists consume information in order to produce information. In that sense, journalists resemble scientists and differ from engineers, who consume information in order to produce physical products or processes (Allen, 1977). This difference in outputs compared to engineers creates different conditions for information seeking. For engineers, the output of one stage of information seeking cannot serve directly as input for the next stage because the output is in a form fundamentally different from the input. Engineers may try to analyze products (e.g., a competitor's outputs) to retrieve information about how they were made but such reverse engineering is difficult and uncertain. For journalists, inputs and outputs are compatible. This compatibility has several implications. First, stories in other news media become an important source of input for journalists. The use of other news media as sources for example provides for keeping abreast with the news landscape, obtaining ideas for stories, and delegating the checking of source information to journalists at other news media. Second, sources become more attractive if they supply soundbites or other ready-made content that can be copied into stories with little or no editing. The ability to provide ready-made content is for example apparent in journalists' criteria for the selection of expert sources and in their frequent use of press releases as sources. Third, the balancing of sources with different opinions becomes an alternative to checking information for accuracy because it is possible to dispense with the resolving of disagreements and misunderstandings. Disagreements and misunderstandings may simply be forwarded to the audience and this forwarding may even be more newsworthy (Reich & Barnoy, 2021).

Journalists are in constant need of story ideas. The daily news-production cycle that structures many journalists' work helps scaffold the generation of story ideas but also indicates the pace at which journalists need to generate ideas and obtain information. This pace may resemble that of emergency-department clinicians (Hertzum & Simonsen, 2019) but it sets journalists' information seeking apart from the information seeking of, for example, students writing term papers (Kuhlthau, 1991), women seeking information related to their pregnancy (McKenzie, 2003), and civil servants preparing and implementing municipal decisions (Byström & Järvelin, 1995). The pace at which journalists need ideas and information shapes their information seeking in multiple ways. First, they direct their information seeking toward sources who are willing and able to respond quickly. The clearest indicator of this practice is that time pressure is the most frequently mentioned criterion for source selection (Table 1). The time pressure also means that journalists often reuse sources who have previously shown respect for the fast pace of journalism. Second, journalists' interactions with their sources are important occasions for getting ideas for new stories, not just information for current ones. This way

of overlaying multiple iterations of the information-seeking process speeds it up but also changes it by reversing the sequence of some of its steps. Specifically, ideas are suggested by sources rather than sources by ideas, thereby possibly bypassing editorial processes. Third, journalists invest in developing long-term relationships with selected sources. These sources supply a steady stream of trusted comments, background information, story ideas, and information checks. And they do it without the uncertainty and delays involved in building rapport with new sources.

Journalists have a responsibility to check the information they obtain from sources. This responsibility relates to the role of journalism in informing the public (Waisbord, 2013). To do so accurately and impartially, journalists must take into account that their sources may be wrong or have an agenda. This review shows that journalists consider information checking a marker of quality journalism but also that they frequently include information in their stories without checking it. Godler and Reich (2017) provide further support for this finding. They find that the information in 56% of the 847 analyzed stories were cross-verified. Cross-verification is the ideal because it provides direct evidence about the accuracy of the information. The information in the remaining 44% of the stories was not cross-verified but instead supported by second-order evidence, that is, by evidence of evidence. Godler and Reich (2017) distinguish three evidence-of-evidence types:

- *Psychological evidence* is clues about a source's sincerity. These clues can be inferred from sources' demeanor, such as whether their speech is evasive, their voice lacks confidence, or they appear overly eager to convey negative information.
- *Procedural evidence* is signs of a source's reasoning. These signs precede or follow the source's claims and consist of data or arguments that can be parsed by the journalist to see whether they make sense, lack coherence, or appear flawed.
- *Social evidence* is about whether a source can afford to deceive. Sources – especially those in prominent positions – stand to lose a lot if they are caught deceiving. Therefore, they most likely provide accurate information, at least about readily checkable issues.

Albeit imperfect, these evidence-of-evidence types go some way toward ensuring that the information provided by sources is dependable. Imperfect information-seeking practices are also widely documented in studies outside of journalism, for example information seekers are known to satisfice (Zach, 2005) and they often prefer sources with whom they have a relationship over the most competent sources (Lu & Yuan, 2011). In addition to evidence of evidence, journalists also employ source balancing as an alternative to checking information accuracy. The balancing of one source against another is especially common for information that is more opinion than fact. However, the multiple studies of bias in journalists' source use show that balance is often not achieved. The voices of women and ethnic minorities are repeatedly underrepresented. Furthermore, activists are mostly

positioned as supplementary sources who provide contrast to an official source, whereas official sources – such as scientists and government officials – are often used without a contrasting activist.

Journalism is evolving in response to the possibilities offered by technology. Over the past decades, searching the internet has become one of journalists' top sources of information and social media are increasingly incorporated in journalists' interactions with their sources. The emerging area of computational journalism indicates that technology will continue to change journalistic practices through its increased capabilities to process textual data, tag them with content identifiers, and summarize them in news-story form (Diakopoulos, 2019). These capabilities will enable journalists to explore larger volumes of data for newsworthy stories. Regarding journalists' use of sources, several gradual changes appear likely. First, computational journalism will make journalists' access to information more indirect and thereby make information checking more demanding. Algorithmic bias may become a subtle but common source of bias in the news. Second, the distinction between seeking information for stories and producing stories on the basis of retrieved information will be further blurred. Auto-generated tags may suggest story ideas in ways that extend how sources and audiences currently suggest story ideas. Auto-generated text can be copied into stories in ways similar to how press releases currently enter the news. Third, computational journalism may shift the balance between textual and human sources toward the increased use of textual sources, which can be processed algorithmically. Such a shift may reinforce the practice of staying in the newsroom as opposed to being in the field talking with sources. A shift in this direction is already mentioned as a consequence of journalists' increased use of social media (Granado, 2011).

4.2 Implications for information-behavior research

As this review shows, journalists' practices in seeking information from sources are well-researched. However, this research tends to be bypassed in information-behavior studies. The reviewed research on journalists' information behavior extends these information-behavior studies in at least six ways:

First, the reviewed papers treat journalists' information seeking as an integral part of journalism, thereby linking information behavior and work domain. These links inform research on collaborative information seeking (Shah, 2014) by showing how it extends a predominantly individual activity with collaborative elements. The reviewed studies depict journalists' information seeking as an activity predominantly conducted by one person. Yet, it involves idea generation with editors at the orientation stage (Hussain et al., 2021), collaboration with fixers at the research-and-production stage (Plaut & Klein, 2019), and long-term collaborations with selected sources at the intersection between professional relationships and friendships (Chibnall, 1975). In addition, journalists mutually, but tacitly, assume that information checking is done by the first journalist who cites a source for the information (Garbett et al., 2014). These collaborative elements show that collaborative information

seeking may be piecemeal, involve actors at different levels in the journalistic hierarchy, and consist of assumptions about other people's behavior rather than explicit interaction with them.

Second, sources may have an agenda. The immediate implication of this finding is that sources are not simply supplying information; they supply it from a specific vantage point, which emphasizes some angles and interests at the expense of others. While the source actively shapes the supplied information, most information-behavior studies adopt an exclusive information-seeker perspective (Hertzum, 2014). Often, they restrict considerations about sources to whether they are more or less competent (Woudstra et al., 2012), accessible (Fidel & Green, 2004), or pleasant to consult (Casciaro & Lobo, 2005). More information-behavior studies should adopt an information-source perspective and investigate their motivations and practices.

Third, the group of sources selected deserves attention, not just the individual source. For journalists, group considerations especially concern the possibility of bias, the balancing of opinions, and the division of sources into categories. Different source categories serve different purposes, such as competence (experts), first-hand experience (eyewitnesses), and relatableness (the general public). Thus, their selection is governed by different criteria. Considerations about the group of sources are also relevant outside of journalism. For example, product managers need to balance design sources who focus on what the product should look like against engineering sources who focus on how the product should be built. Relatedly, government officials need to weigh information from nominated experts who know the formal procedures against information from colleagues with first-hand experience about how to get things done. However, such source-group considerations are largely bypassed in information-behavior studies, which focus on individual-source characteristics. Addressing source-group considerations would enrich information-behavior studies.

Fourth, the widespread distinction between quality and accessibility as the two overarching criteria determining source selection is overly simplistic. The reviewed studies provide ample evidence that quality and accessibility are important selection criteria but also that additional criteria influence source selection (Table 1). In particular, the balancing of sources with different views often replaces direct checks for information quality (Boyce, 2006). This practice is not exclusive to journalists' information seeking. For example, researchers also juxtapose information from different schools of thought to give a balanced account of what is already known about a topic – rather than attempt to resolve all disagreements and misunderstandings. In addition, journalists often replace direct checks for information quality with indirect checks, which rely on evidence of evidence (Godler & Reich, 2017). These indirect checks seek to determine whether the source appears trustworthy, not whether the information is accurate. Previous work has linked engineers' preference for company-internal sources, such as colleagues, to their known or easily determinable trustworthiness (Hertzum, 2002).

Journalists extend this trust-based selection of sources to external sources, for which it must be assumed to be less reliable because less is usually known, or easily determinable, about external sources.

Fifth, multiple instances of information seeking are overlaid on top of one another. For example, journalists get ideas for new stories from sources consulted about current stories and they get background information for multiple stories during single interactions with a long-term source. The result is a mesh of intersecting information-seeking processes. A single information-seeking process may spawn new information needs, which trigger additional information-seeking processes, and it may reconnect with old information needs, which are still being pursued. Thereby, journalists' information seeking transcends models such as Bates' (1989) berry-picking model, which depicts information seeking as the evolution of a single information need over the course of the information-seeking process. By pursuing multiple information needs in parallel, the total information-seeking process becomes more efficient. Furthermore, serendipitous encounters with information become more likely (Bird-Meyer et al., 2019).

Sixth, the four-stage model of journalists' information seeking (Figure 2) may be applicable also outside of journalism. At least, the four stages appear quite generic. The distinction between the first two stages – source identification and source interaction – echoes existing information-behavior models (e.g., McKenzie, 2003). The third stage – information interpretation – resembles sense-making, which has a long history in information-behavior research (Dervin, 1998). The fourth and cross-cutting stage – source management – brings out issues that remain implicit in most studies of information practices but nevertheless influence information seeking. While the stages appear generic, the prevalent issues within the stages may be more domain specific. The model includes eleven such issues to describe journalists' information seeking. Most of them, such as bias and boundary work, extend existing information-behavior models by redirecting attention to less researched themes. These themes influence current information practices in journalism and may inform future information-behavior research in other domains.

4.3 Limitations

Four limitations should be remembered in interpreting the results of this review. First, the review is made by one person (the author). An additional coder would have provided for validating the selection and analysis of the reviewed papers. The systematic review process bolsters the quality of the selection and analysis, but the author acknowledges that the absence of validation is a limitation. Second, the review covers professional journalists only. That is, it excludes citizen journalism, which is a growing phenomenon. Citizen journalism is external to the news-production cycle that shapes professional journalists' information seeking and, therefore, has priorities different from those of

professional journalism. For example, activist sources tend to be more prominent in citizen journalism. Third, the amount of detail that can be included about each reviewed study is limited in a review of 90 papers. For example, journalistic practices vary around the globe and across journalistic specialisms. While the review makes some explicit country references and specialism distinctions, it does not include detailed cross-cultural or cross-specialism analyses. Researchers wishing to make such analyses may use the information in the appendix as a starting point. Fourth, the review does not examine the theoretical frameworks used for understanding journalists' information seeking. In addition to established information-behavior models (e.g., Ellis, 1989; McKenzie, 2003), the theoretical frameworks employed in the reviewed papers include, among others, gatekeeping theory (Shoemaker & Vos, 2009), interpretive repertoire (Wetherell & Potter, 1988), and the uses and gratifications approach (Blumler & Katz, 1974). These additional frameworks may be of interest to information-behavior research more generally and could deserve a review of their own.

5 Conclusion

This paper has reviewed the literature on how journalists seek information from sources. Information seeking is central to journalism because journalists are dependent on their sources for much of the information in their stories. The 90 studies included in the review show that journalists iterate through four information-seeking stages:

- *Source identification*, which is done on the basis of quality, accessibility, and other selection criteria. The preferred sources include experts and press releases, but journalists' source selection also suffers from bias. In particular, female and ethnic-minority sources are commonly underrepresented.
- *Source interaction*, which requires that journalists build rapport with sources before they are comfortable sharing information. Sources may provide ideas for new stories in addition to information for current stories, thereby overlaying multiple instances of the information-seeking process on top of one another.
- *Information interpretation*, which takes into consideration that sources may have an agenda or be misinformed. While journalists acknowledge information checking as a marker of quality journalism, they regularly bypass it. A commonly used alternative is to balance sources with different views against one another.
- *Source management*, which involves that journalists manage the boundary between themselves and their sources. Journalists for example do so by adopting a pluralistic, framing, or advocacy

approach in their stories. They also cultivate long-term relationships with selected sources to have access to background information, trusted comments, and the like.

The studies of journalists' information seeking suggest further avenues for information-behavior research by linking information behavior and work domain, considering that sources may have an agenda, attending to source selection at both the individual and group levels, enriching the analysis of selection criteria with criteria such as balance, and showing how multiple instances of information seeking combine into a mesh of intersecting processes. It is the hope that this review will inform further research on journalists' information seeking and inspire future research on information behavior in other work domains.

Author contributions

Morten Hertzum: all aspects of the work.

Declaration of competing interests

The author has no competing interests to declare.

Appendix

The 90 papers included in the review

Paper	Country	Topics *										Method (number of participants)
Ahlmén-Laiho et al. (2014)	Finland	S			R			C				Survey (118)
Allgaier (2011)	UK	S	P						D	L	W	News analysis + interviews (7)
Anwar et al. (2004)	Kuwait	S	P				A	C				Survey (92)
Anwar and Asghar (2009)	Pakistan	S	P				A	C				Survey (87)
Armstrong (2004)	US			B								News analysis
Attfield and Dowell (2003)	UK				R	I		C				Interviews (25)
Backholm et al. (2017)	Europe							C				Interviews (22)
Barr et al. (2011)	US						A				W	Interviews (15)
Bird-Meyer et al. (2019)	US					I						Interviews (15)
Boyle (2015)	US	S		B			A					News analysis + interviews (4)
Burch (2002)	India	S									W	Interviews (6)
Chaudhry and Al-Sagheer (2011)	Kuwait	S	P									Survey (42)
Chavan (2014)	India		P									Survey (47)
Chibnall (1975)	UK	S								L		Interviews (13)
Correa (2010)	US			B								News analysis
Dashti et al. (2018)	Kuwait	S				M		C				Survey (67)
de Dobbelaer et al. (2017)	Belgium		P				A					News analysis + interviews (16)
Delmastro and Splendore (2021)	Italy					M						Survey (1,424)

Diekerhof and Bakker (2012)	Netherlands	S						C	D			News analysis + interviews (22)
Dijkstra et al. (2015)	Netherlands	S						C		L		Interviews (14)
Edem (1993)	Nigeria	S	P									Survey (140)
Elia (2019)	Tanzania	S	P									Survey (75) + interviews (6)
Eribo (1996)	Nigeria	S										Survey (90)
Eriksson and Östman (2013)	Sweden				R						W	News analysis + observation
Furlan (2012)	Australia	S					A					Survey (25) + interviews
Garbett et al. (2014)	UK	S					A	C				Interviews (10)
Genovese (2015)	US			B	R						W	Interviews (14) + observation
Gesualdo et al. (2020)	US	S								L		Interviews (22)
Gilbert et al. (2021)	US	S										Interviews (7)
Granado (2011)	Europe	S			R		M	A	C			Survey (97) + interviews
Hossain and Islam (2012)	Bangladesh	S	P									Survey (57)
Hussain et al. (2021)	Pakistan					I		A	C			Interviews (7)
Iturregui-Mardaras et al. (2020)	Spain	S			R			A				Interviews (43)
Ivask et al. (2017)	Estonia	S							C			Observation (26) + interviews (20)
Jha (2008)	US	S		B				A		L		Interviews (14)
Johnson et al. (2018)	Belgium	S					M	A				News analysis + interviews (33)
Kim (2011)	South Korea	S					M					Survey (112)
Kjær and Langer (2003)	Denmark	S				I		A		L		Interviews (8) + observation
Kruvand (2012)	US	S		B					D			News analysis + interviews (7)
Kumar and Chikkamanju (2020)	India	S										Survey (184)
Laursen and Trapp (2021)	Denmark		P					A				News analysis
Lawrence et al. (2014)	US						M					News analysis
Leask et al. (2010)	Australia	S						C	D			Interviews (16)
Len-Ríos et al. (2009a)	US							A				Survey (598)
Len-Ríos et al. (2009b)	US	S	P			I		A				Survey (774)
Len-Ríos et al. (2008)	US			B								News analysis
Mahapatra and Panda (2001)	India	S										Survey (226)
Mansour (2018)	Egypt	S					M	C				Survey (386)
Mason et al. (2018)	US	S		B						L		Interviews (10)
Mayo-Cubero (2020)	Spain		P									Survey (23)
McCauley et al. (2013)	US			B								Survey (468)
Memon (2014)	Pakistan		P									Survey (576)
Memon (2019)	Pakistan						M					Survey (367)
Mensa et al. (2021)	Chile			B								News analysis (158)
Mishra et al. (2018)	India	S										Survey (640)
Moges (2021)	Ethiopia	S									W	Interviews (10)
Mutugi et al. (2020)	Kenya	S						A	C			Interviews (16) + observation
Nakada et al. (2015)	Japan	S	P					A				Survey (48)
Ndlovu and Sibanda (2021)	Zimbabwe	S										Interviews (21)
Park et al. (2010)	US							A				Survey (309)
Plaut and Klein (2019)	multiple		P									Survey (450)
Raeymaeckers et al. (2015)	Belgium		P				M	A				Survey (1,630)

Reich (2014)	Israel			B									Interviews (60)
Reich and Barnoy (2021)	Israel	S							C	D			Interviews (70)
Ross (2007)	UK		P	B									News analysis
Saikkonen (2019)	Finland	S						A		D		W	Interviews (10)
Saldaña et al. (2017)	Latin America					I	M						Survey (877)
Sawant and Mokashi (2019)	India	S	P										Survey (31)
Schenk and Sonje (2000)	Germany		P					A					Survey (119)
Shoenberger and Rodgers (2017)	US		P										Survey (141)
Singh and Sharma (2013)	India	S											Survey (278)
Siyao and Sife (2021)	Tanzania	S	P		R				C	D			Survey (44)
Takahashi and Tandoc (2013)	US		P					A					Survey (103)
Tanner (2004)	US	S	P			I		A					Survey (139)
Tanner et al. (2015)	US	S						A		D			Interviews (15)
Towner et al. (2006)	US	S		B				A		D		W	Interviews (12)
Vandenberghe et al. (2020)	Belgium	S		B						D			Interviews (16)
van der Meer et al. (2017)	Netherlands	S									L		Survey (214)
Vergeer (2018)	Netherlands	S						A	C				Survey (666)
Viswanath et al. (2008)	US		P			I		A					Survey (468)
Voronova (2014)	Europe			B	R						L	W	Interviews (40)
Vreekamp (1995)	multiple	S											Interviews (53) + observation (58)
Vu et al. (2018)	Vietnam			B									News analysis + survey (430)
Ward (2019)	France							A				W	News analysis + interviews (32)
Wihbey (2017)	US	S	P										Survey (1,118)
Wintterlin (2020)	Germany				R			A	C		L		Interviews (12)
Zeldes and Fico (2005)	US			B									News analysis
Zeldes and Fico (2010)	US			B									News analysis
Zeldes et al. (2007)	US			B									News analysis
Zeldes et al. (2012)	US			B									News analysis

* Topics: A – sources with an agenda, B – bias, C – checking information, D – balancing sources, I – idea generation, L – long-term relationship, M – social media, P – preferred sources, R – building rapport, S – selection criteria, W – boundary work.

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