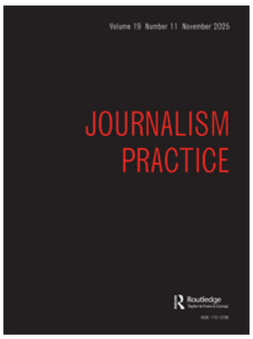

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Explaining the Practice Acceptance of the Solutions Journalism Approach through an Analysis of Journalists' Adherence to Solutions Journalism Rigors

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ABSTRACT

The non-profit Solutions Journalism Network (SJN) globally teaches journalists four rigors that define solutions journalism content: (1) response (how-to), (2) limitations, (3) evidence, and (4) insights. In comparison to public, peace, or engaged journalism approaches, we argue the concept of *rigor* may be persuasive in influencing traditional journalists' acceptance and practice of an alternative form of journalism—solutions journalism. We assessed whether journalists followed SJN's solutions journalism rigors following the empirical modification of their rigors to make operational definitions more concrete and clearer. The SJN's stance is that journalists should include all four rigors in news content. The quantitative content analysis results showed journalists incorporated an average of two rigors, with the most applied rigor being *evidence*. Journalists rarely incorporated four rigors based on a content analysis of solutions journalism articles (n = 555). We also assessed the global practice of solutions journalism finding that reporting from geographic locations (Africa, Europe, US) did not significantly differ in rigor based on a Solutions Journalism Rigors index measure.

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Solutions journalism is a journalistic approach that emphasizes investigating existing solutions to help audiences learn more about how stakeholders are responding to problems (McCann 2016). The label *Solutions Journalism* may initially mislead journalists, audiences, and educators to assume journalists that employ the solutions journalism approach advocate for a particular solution (Lough and McIntyre 2018). A solutions-oriented article includes the reporting on problems, but more weight is given to investigating an existing solution rather than a problem (McIntyre and Lough 2021). Practice proponents combat advocacy assumptions by arguing solutions journalism uses traditional verification and investigative reporting techniques in which journalists assess the quality of an existing

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solution (e.g., a new fog harvesting program to address the problem of global drought). The mission of the Solutions Journalism Network (SJN), a nonpartisan organization, is "to spread the practice of solutions journalism: *rigorous* reporting about how people are responding to social problems" (n.d., n.p.) through workshops, grants, and webinars. Specifically, journalists should investigate a specific solution to a problem by enacting four rigors representing solution's journalism quality (McCann 2016). The SJN (n.d.) proposed four news quality rigors include: (1) response (how-to information), (2) limitations, (3) evidence, and (4) insights. Yet it is "unclear in practice how often so-called solutions journalism stories include all elements [rigors] and in what proportions" (Thier and Namkoong 2023, 1562).

We argue the existence of these rigors may offer comfort for traditional journalists hesitant to adopt a new journalistic approach. Firstly, rigors enable journalists to communicate the credibility of a new practice to their colleagues (Lough and McIntyre 2018). And secondly, rigors act as invisible hands that guide journalists learning how to structure solutions news content. Otherwise, journalists may resist the unfamiliar practice or apply their own individual interpretations to the approach if there is not some unified or clear understanding of what is solutions journalism. As a result, we offer concreteness to the four rigors to serve both journalists and audiences in auditing and practicing solutions journalism.

SJN (n.d.) practitioners state rigors serve as guardrails for the solutions journalism practice to prevent the advocacy or promotion of a solution in their narratives. However, we do not know to what extent journalists adhere to these four rigors in news content. In the present study, we addressed the empirical meaning of the four rigors by increasing the manifestness in order to quantitatively content analyze the degree to which journalists followed the proposed reporting news quality criteria set by SJN. One function of quantitative content analysis is to assess whether content matches the normative standards set by an influential group—i.e., The SJN (Riffe et al. 2019). We analyzed 555 text-based news articles designated as solutions journalism by SJN, examining the extent to which solutions journalism articles included the rigors. This study also contributes to practice by theoretically and empirically refining solutions journalism rigors to help both scholars wanting to audit solutions news content and journalists wanting to practice it. We also employed the rigor variables to assess whether media systems in three different geographic locations—the US, Europe, and Africa—varied in their adherence to those four rigors based on a proposed solutions journalism rigors index, scoring the rigor of each article from a 0 to 4.

The Solutions Journalism Approach

We conceptualized solutions journalism as a *practice* representing the field of journalism rather than a theoretical framework. Solutions journalism is one of many approaches representing the field of journalism, such as environmental, peace, health, investigative, data, advocacy, etc. Solutions journalism has been described as a theoretical framework (Lough and McIntyre 2018, 1), a concept (Lough and McIntyre 2018, 5), a media frame (McIntyre 2019, 20), and an "emerging practice" (Powers and Curry 2019, 2237). We refer to solutions journalism as a *practice* that often occurs within traditional journalism settings because its intentions are to "strengthen, not break, traditional journalistic

norms" (Thier and Namkoong 2023, 1565). It largely resembles other traditional journalism approaches, such as data or environmental journalism, in that its group-identifying members practice and support a particular style of journalism through their work. Solutions journalism's community of practice members are encouraged to follow four content rigors that guide their behavior (SJN, n.d.). We theoretically contribute to this practice by suggesting ways to add empirical clarity to SJN's rigor sub-concepts to encourage a mutual understanding of the practice.

Specifically, constructive, advocacy, slow, peace, engaged, and civic journalistic approaches represent the reconceptualizing attempts by journalism professionals and educators trying to figure out how to engage, empower, and inform audiences without overwhelming or disempowering them through journalism. Explanations of the solutions journalism approach often are accompanied with comparisons to these previously mentioned experimental, audience-driven approaches (Thier 2016). Yet solutions journalism differs in that trainers teach rigors and fact-based reporting (e.g., Lough & McIntyre, 2023; Wenzel, Gersen, & Moreno, 2016). SJN (n.d.) offers both in-person training and online toolkits available in multiple languages including free online tutorials teaching participants the four rigors.

We posit that one unaddressed approach might also be a useful, logical parallel with the emerging history of solutions journalism—environmental journalism. Environmental journalists initially struggled with establishing their legitimacy among their peers and readers because of the perception they were biased environmental advocates (Fahy 2018). This fear of appearing as environmental crusaders and the desire to be accepted among their peers led the Society of Environmental Journalists, a non-profit professional association representing environmental journalists, to declare environmental journalism should be objective and independent (Palen 1999). As a result, most professional environmental journalists reject the advocacy role (Simon, Valenti, and Sachsman 2011; Tandoc & Takahashi, 2014). Environmental journalists instead began to follow well-established professional journalistic practices of editorial independence and balanced news coverage. The unquestioning adherence to balancing two conflicting sides in news, however, negatively influenced the public's understanding of climate change (Boykoff and Boykoff 2004). Presently, some environmental journalists have transitioned from the use of the journalistic objectivity principle toward a greater reliance on the scientific objectivity norm in which they evaluate the weight of scientific evidence (Dunwoody 2005; Fahy 2018; Hiles and Hinnant 2014). In review, environmental journalists' desire to follow traditional practices to establish their credibility within professional journalism spaces resulted in defensive tactics due to a fear of being perceived as advocates. We assume SJN's discourse about the rigorous nature of solutions journalism likely is persuasive in encouraging traditional journalists to adopt the practice.

The solutions journalism movement went mainstream in 2010 when journalists with *The New York Times* launched a column called *Fixes* that highlighted solutions to problems and evaluated the effectiveness of those solutions. David Bornstein, Tina Rosenberg, and Courtney Martin founded the SJN in 2013 (Bornstein and Rosenberg 2021). However, the origin of the solutions journalism concept dates to 1990s when the *Columbia Journalism Review* published an article by journalist Susan Benesch (1998), who acknowledged the practice of journalists reporting on solutions to social problems. She expressed concern that journalists focused on what's wrong in communities with the hope their reporting

would inspire someone to fix the problem. A news diet of problem- and threat-framed news content may result in audiences feeling overwhelmed, distrustful, apathetic, and disempowered rather than propelling them toward positive action (Kleemans et al. 2017; Miller, Shin, and Brannock Cox 2024; Villi et al. 2022; Wenzel, Gersen, & Moreno, 2022). Alternative approaches toward crafting and framing journalism, such as peace, civic, and engaged journalism, emerged in response to conflict and problem-focused approaches (Loizzo, Watson, and Watson 2017). In her magazine article, Benesch (1998) argued reporters should search for structural reasons why a particular program is succeeding and anchor their writing around a solution's analysis rather than emphasizing problems. The reporting on the design and effectiveness of solutions may hypothetically educate readers about strategies that could be implemented to address their community's problems. Proponents believe that by concentrating their efforts on covering solutions, they can help readers better understand the challenges associated with responding to a problem (Bornstein and Rosenberg 2021; Miller, Shin, and Brannock Cox 2024). Solutions journalism entered the journalism space to rebalance the news away from problems. Despite being a potentially inviting time to test alternative approaches toward journalism, journalists often resist adopting practices associated with alternative forms of reporting. Resistance may be rooted in previous generations of journalists following institutional reporting norms, such as verification, detachment, or expert source use (Lewis, Kaufhold, and Larsorsa 2010; Miller 2019; Robinson and Culver 2019; Voakes 2004).

Yet solutions journalism appears to be unique in comparison to most other alternative approaches toward journalism. Unlike past proposed approaches, traditional journalists and news organizations express support for the solutions journalism approach. The SJN combatted resistance by demonstrating the rigorous structure of the practice (Lough and McIntyre 2018). Solutions stories are also often the most popular or emailed stories (Bornstein and Rosenberg 2021). The approach continues to gain support based on responses from 211 global news media publishers, finding 73% of them perceived solutions journalism will be important in combatting news fatigue and avoidance (Newman 2023).

The SJN socializes its members into the practice by teaching them how the rigor of solutions journalism aligns with their traditional reporting methods, likely influencing the acceptance and adoption of it (Abbott 1988; SJN n.d.). The practice must fit within traditional journalists' working environment, and solutions journalism aligns with investigative and data journalism practices because they are all evidence-driven reporting techniques. Investigative and data journalists gather original evidence to reveal systematic problems and failures often hidden from the public, while solutions journalists collect evidence to investigate the possible flaws of an existing, credible solution that is intended to correct a social problem. Thus, solutions practitioners use traditional reporting techniques to investigate the effectiveness of a solution, or the civic action taken by a group, ultimately moving the spotlight toward the group responsible for administering a solution. Solutions journalists do not try to uncover the causes of problems like investigative journalists, but they instead emphasize how communities and stakeholders are confronting problems (Lough and McIntyre 2018; Walth, Dahmen, and Thier 2019).

A shared understanding of a practice is challenging unless concrete guidance is provided by some overarching organized entity, such as the SJN. SJN's (n.d.) primary role is to educate journalists and advance the practice of solutions journalism. These pedagogical and engagement roles require them to define the practice's structure in an

accessible way, such as teaching journalists the four rigors that represent it. SJN's knowledge of Western journalism culture (Bornstein and Rosenberg 2021), including its common language, beliefs, and norms, means this group is likely influential in changing journalism practice in comparison with past efforts to change journalism that did not have such institutional support. SJN is a funded and organized group of professional journalists (Bornstein and Rosenberg 2021). SJN publicly shares educational information on their website in hopes of spreading literacy. If one visits SJN's Resources page (https://www.solutionsjournalism.org/events) or subscribes to their newsletter; people may sign up for or take free self-directed, online training on their website; they may attend a free information webinar; they may attend a session at a conference; they may apply to learn to become solutions journalism trainers; or they may attend in-person training at universities or news outlets. Since launching, SJN (n.d.) stated they have worked with more than 57,000 journalists and more than 610 news outlets (https://www.solutionsjournalism.org/impact).

Like most professional traditional journalists, SJN (n.d.) rejects the notion of advocacy, such as reporting on solutions without providing evidence of the effectiveness of a solution. The SJN proposed and teaches four rigors to prevent journalists from interpreting solutions journalism as advocacy (McCann 2016). Rigor is a broad conceptual lens that houses several concepts that are used to evaluate a practice. Rigor in quantitative and qualitative methodological research, like the solutions journalism rigors, is represented by several concepts, such as accuracy, reliability, trustworthiness, validity, coherence, and generalizability, for example (Hays et al. 2016). Scientific community members state scientists follow relevant rigors to create sound and legitimate research based on standards set by a community. Thus, social norms and rigors shape practice and behavior (Abbott 1988; Merton 1973). SJN (n.d.) also communicates its efforts and accomplishments to its members, strengthening its network.

Rigor also provides a structure to a foreign practice. Mission statements, professed ideals, or overarching principles may be too abstract to assist journalists in carrying out an unfamiliar journalistic practice (Merton 1973). If no concrete guidance is provided, journalists may interpret a practice based on their assumptions. Professional journalists and educators, for example, interpreted the objectivity norm largely as citing two opposing sides, giving rise to the conflict news value in journalism (Robinson and Culver 2019; Tuchman 1978). Thus, journalists who learn about the rigors can articulate the boundaries of solutions journalism to those unfamiliar with the approach and persuade their leadership to support it. A lack of familiarity with experimental approaches or associated standards of quality often results in professionals who are unfamiliar with a practice to view it less favorably. Professional communities create boundaries to both define a practice and increase its acceptance (Merton 1973; O'Meara 2010). Thus, we offer clarity associated with the four rigors to assist with the practice's growth and pedagogical efforts related to teaching it. We take care in tending to these content measures (i.e., how one enacts the rigors) that represent the practice.

Solutions Journalism Rigors

As previously stated, SJN leadership and educators teach four content rigors: the response (how-to), limitations, evidence, and insights. The SJN (n.d.) states the response, or how-to,

refers to details of how to implement at least one solution; limitations refer to the uncertainties, costs, constraints, or side effects of solutions; evidence refers to quantitative or qualitative data concerning a solution's effectiveness; and insights offer lessons learned from the solution. Journalism research suggests journalists would most likely abide by the *evidence* rigor given their history of citing data, research, and sources as a news gathering technique in journalism (Coddington and Molyneux 2023; Reich and Barnoy 2023). However, limitations have been stated to be the most important of the four rigors according to a SJN trainer (SanyalTarafdar 2024). One function of content analysis or content audits is to consistently observe variables (i.e., rigors) in content (Riffe et al. 2019). To support future systematic analysis, we added concreteness (i.e., manifestness) to the rigors to encourage the consistent practice of solutions journalism. We support the theoretical-operational linkage by reviewing and explicating each rigor.

1. The Response (How-to)

The solutions journalism approach presents a response to a social problem in a way that educates others procedurally about how a specific person or group addressed a problem (SJN 2016). In Benesch's (1998) early interpretation of solutions journalism, she conceptualized it as reporting on "efforts that seem to succeed" to inform readers about the steps employed to respond to a social problem (36). Imitation would later inspire the SJN to propose the response or how-to rigor.

The presentation of the *how-to* is the primary emphasis of a solution's story, rather than presenting a character-driven narrative that focuses on the *who* (i.e., an individual who rescues people from a problem). How-to communicates how responses work (Walth, Dahmen, and Thier 2019). The intent of response (how-to) information is to encourage others to replicate, adapt, or refine the solution in another context (Sukharchuk 2017). To practice this rigor, news content should include details of how sponsors implemented the solution into practice (SJN 2017).

The *response (how-to)* component involves detailing the steps associated with implementing a solution. It resembles the *Method* section that details the design of a research study or the *Methodology* section of a data journalism story, in which the journalist overviews the processes associated with identifying, scraping, cleaning, verifying, or analyzing data sets for audiences. Journalism as a field is linked to the scientific method. The journalism field mimicked their journalistic practice after the social scientific method such as verifying information and citing expert sources to combat perceptions of bias in their news content and persuade audiences of the credibility of their work (Ettema and Glasser 1985; Robinson and Culver 2019). In a methodological narrative, researchers present procedural details associated with the design of their study to encourage others to replicate or audit the study so they can assess whether a study's findings will hold in other contexts facing similar problems (De Lone 1990). The practice of solutions journalism has been stated as aligning with investigative journalism approach as well (Walth, Dahmen, and Thier 2019). Investigative journalism stems from the computer-assisted journalism (i.e., closely resembling with investigative and data journalism) approach, which Philip Meyer developed in 1966 based on his perspective that investigative journalism should follow the social scientific method (Meyer 1973; Rosenwald 2023). Given solutions journalism's alignment with investigative journalism, the response (how-to) rigor also reflects the journalistic

transparency principles in which journalists show readers the steps and decisions made as they analyze and summarize a raw data set, for example (Zamith, 2019). The reporting of a detailed *how-to* section by journalists encourages the solution to be open to replication, refinement, and adaptation (SJN 2017). The journalist should write a blueprint similar to a method's or methodology's section in which professionals communicate the steps involved with collecting data, designing a study, and analyzing data (American Psychological Association Style 2009; Babbie 2009; Schensul 2008). Ultimately, journalists have the capacity to support the problem-solving capacities of their readers by sharing details on how to enact a solution, increasing the informational usefulness of their reporting (Miller, Shin, and Brannock Cox 2024).

The replication literature highlights how journalists could communicate the *response (how-to)* in solutions journalism by providing information on the geographical area in which the solution was implemented, characteristics of people affected by the solution, or procedures of how a solution was implemented. One solution might be successful in a particular region, but a solution may be hindered by contextual factors, such as population, culture, or management in other locations (Firmin 2008). We link the method's reporting literature to journalism and offer ideas as to how journalists could enact this rigor: For example, journalists may enact this rigor by providing details on how to implement a solution in an accessible way; helping news consumers visualize contextual factors, such as the participants' neighborhood, age ranges, education levels, or racial/ethnic backgrounds of the people targeted by a solution; providing information on how volunteers were trained; offering procedural details associated with implementation of the solution; collecting information on participant recruitment procedures and incentives; or documenting how leadership assessed the effectiveness of a solution (Aguilar 2020; American Psychological Association 2009; Pyrczak and Bruce 2014). The reporter should be selective and report relevant information that likely influences the implementation of a solution by others due to the limitless number of characteristics that may be reported to ensure the content is educational but not overwhelming.

2. Evidence

The SJN (2017) defined *evidence* as observations that provide justification concerning the effectiveness, or ineffectiveness, of a response. In the legal field, the Stanford Encyclopedia of Philosophy (2015) categorized three types of evidence: oral evidence (the testimony given in court by witnesses), documentary evidence (documents produced for inspection), and real evidence (e.g., objects, such as a knife used for committing a crime). Evidence may be anecdotal, or qualitative, consisting of personal testimonies from people directly affected by a solution, or the journalist could present numerical summaries demonstrating the impact of the solution. Although, McIntyre and Lough (2021) found journalists perceived evidence as numerical data more so than anecdotal. We interpreted evidence from both a quantitative and qualitative perspective due to the greater likelihood they would rely on interviews to present evidence, which means journalists could enact the evidence rigor by including either anecdotal or quantitative evidence concerning the effectiveness of at least one reported solution.

Evidence is outside information that is used to strengthen or weaken the validity and reliability of a unit of information (Coddington and Molyneux 2023; Reich and Barnoy

2023). Evidence can include data, research, institutional documents, images, recordings, or eyewitness statements. Reporters rarely collect their own observational evidence (i.e., shoe-leather reporting) or verify information presented to them by news sources. They typically instead disseminate information given to them in interviews, news events, or press releases (Carpenter, Peng, and Cepak 2018; Coddington and Molyneux 2023). Overall, journalism scholarship suggests interview quotes may be the dominant form of evidence. In a sample of print and online Israeli news articles, Reich and Barnoy (2023) found 42% of items contained evidence but only two of the 434 news items used information stemming from a database. Journalists most often relied on government documents, such as police reports, followed by eyewitness statements. Coddington and Molyneux (2023) found in a content analysis of six US publications that journalists rarely included their own observations, and instead relied mostly on interviews. They also found an increasing reliance on mediated sources, such as social media posts.

Anecdotal evidence. The inclusion of personal stories in an article is a common practice in journalism, including health journalism (Hinnant, Len-Ríos, and Young 2013) and investigative journalism (Houston 2009). Journalists interview people close to a news event or issue to verify the accuracy of information and investigate the impact (Carpenter, Peng, and Cepak 2018). In solutions journalism, anecdotal evidence from one source may provide modest evidence of a solution's effectiveness, but the key is not to overclaim the impact of a solution. Anecdotal evidence may be the most readily available source of evidence if a solution was recently implemented (SJN 2017). Houston (2009) argued these perspectives are important to give an issue a unique identity and make the solution relatable to readers. People who practice solutions journalism tend to cite people affiliated with or impacted by a solution (Brannock Cox, Miller, and Shin 2024). Affected sources, however, should explain the direct impact of the solution on them rather than journalists citing information about how the source has been affected by the problem to enact this rigor.

Quantitative evidence. Quantitative evidence refers to numerical information that conveys the impact of a solution (Babbie 2009). Reporters should evaluate a solution by seeking both supporting and contradictory evidence and then weigh all the evidence to determine the effectiveness of a solution by reviewing databases, documents, or internal research (Houston 2009). National-level journalists are more likely than local journalists to cite research studies (Wihbey 2016). In solutions journalism, journalists may incorporate quantitative evidence in an article by presenting data about how a population was affected by the implemented solutions rather than highlighting statistics about how people may be affected by the solution in the future.

3. Limitations

Solutions journalism educates people about solutions to problems and the challenges associated with the implementation of a solution. Future solution sponsors create better solutions when they are armed with knowledge of the constraints associated with past solutions (Miller, Shin, and Brannock Cox 2024). Limitations are defined as a synopsis of the failures, challenges, and problems associated with implementing or maintaining a solution. According to SJN, limitations in solutions-oriented news should point out the uncertainties, risks, costs, constraints, or side effects of the implemented solution (Walth, Dahmen, and Thier 2019). The communication of limitations informs readers

the extent to which a solution is replicable elsewhere by detailing the setbacks implementors faced when administering the solution (SJN 2017). In news reporting contexts, reporting limitations is critical in demonstrating that journalists are not behaving as advocates of a particular solution.

Limitations is an essential section in academic writing, as well, because all studies have limitations. Thus, this literature is useful in helping people visualize what type of information to report. Limitations, such as time, funding, or access, represent a study's weaknesses associated with a researcher's study design decisions, including sample choices (e.g., sample characteristics, biased responses), measurement choices (e.g., ad hoc measure), statistical validity (e.g., small sample size), or whether weaknesses are under the researcher's control (American Psychological Association 2009; Price and Murnan 2004; Pyrczak and Bruce 2014). Data often reflect certain demographics, organization types, or geographic regions (Babbie 2009). Rigorous reporting involves being transparent about sources of uncertainty (Lingard 2015; Shipman 1997). For example, researchers' findings often can't be generalized to other populations due to limitations in sampling (e.g., convenience, volunteers, small sample, access to certain groups), a cross-sectional study (i.e., study conducted at only one point in time), budget constraints, or low participant response rates (American Psychological Association Style 2009; Babbie 2009; Brutus, Aguinis, and Wassmer 2013; Price et al. 2004; Price and Murnan 2004; ter Riet et al. 2013). Journalists should report solution biases; the limited scalability of the solution to other populations; or the barriers related to the implementation or maintenance of a solution based on this line of literature.

4. Insights

Insights as a labeled rigor is challenging to observe independently and consistently in content. The SJN describes *insights* as the inclusion of knowledge that offers a broad view, patterns, or principles about human behavior, information on how the world works, and descriptions of how society could be made to work better. Leaders and trainers associated with the SJN wrote solutions journalism "produces insights that can help others respond, too — not just inspiration" or insights "distills the lessons that make the response relevant and accessible to others" (The Catalyst Journalism Project 2019, n.p.; SJN n.d., n.p.). Thus, the abstractness of the concept and conceptual definition ambiguity associated with it make it challenging to systematically observe in content. And based on our pilot testing coding sessions, it was challenging to refine and develop a measure to identify whether journalists applied the *insights* rigor to their articles. Frankly, it is a challenging section to construct for any writer. Walth, Dahmen, and Thier (2019) provided the most concreteness when they operationalized insights as information generalized about the solution beyond the context of the solution. We overview relevant interpretations of each concept that we could locate in ways that may inform journalists on how to write about each rigor.

In the problem-solving literature, *insights* do not center on lessons learned but rather on the discovered arrangement of parts that enlighten the stakeholder or expert on how to approach the problem-solving process. Insight is a cognitive process of restructuring information learned from previous efforts to solve problems and applying those lessons to a new situation. This higher order perception-shifting process of rearranging

and arranging information is often cognitively handled by expert problem-solvers. Insight, in essence, is an evolved understanding of how to respond to a problem (Ohlsson 1984). From this perspective, one could not manifestly observe perception shifting and cognitive processing of a problem space in content.

In science, researchers do not employ the label *insights* but instead employ the conceptual label of *implications*. Implications is a *recommendation* rather than a scientific *rigor* because implications do not reflect study design and data collection procedures carried out by the researcher. Scholarly research writing guidelines about implications emphasize addressing what the findings (i.e., solutions) of a study may mean for a particular group and highlighting the contributions of the solution beyond the reported-on context. Garcia (2017) defined implications as reporting the potential *usefulness* of a research study.

Based on a review of these three strands of literature, we define *insights* as the communication of potentially useful knowledge associated with a solution beyond the reported period or context of the solution. The implications section is typically placed at the end of a research narrative, is an opportunity for the writer to answer the *so what* question—why we are reporting on this solution for audiences (Bastow, Dunleavy, and Tinkler 2014; Daft 1995). The *so what* may be addressed by detailing what the solution may mean for other groups, humans, cases, or other contexts. Overall, the reporter should highlight how the outcomes and knowledge of a solution may be beneficial for others, such as how solutions could help beyond the solution's context (e.g., other entities, geographic regions, or populations) or report how the solution could have an impact on society, a practice, a disenfranchised group, an organization, policy, or a community (American Psychological Association Style Manual 2009; Becker 2007; Daft 1995; Garcia 2017). Specifically, journalists could address how a solution contributes to a greater understanding of human behavior; how the solution could be useful for social groups, communities, or organizations; how it could address similar problems in other contexts, or how a solution could be useful for public policy-making entities, such as the government or lawmakers, highlighting possible actions that could be taken by entities to support such solutions (Babbie 2009; Garcia 2017; Giltrow et al. 2014). Policy implications, however, should be based on reason and evidence rather than overgeneralizing the possible implications of a solution (Bastow, Dunleavy, and Tinkler 2014; Daft 1995).

Research Questions

Silvio R. Waisbord (2019) has argued scholars should more vigorously seek relationships with schools, communities, civic organizations, newsrooms, and government offices to help these entities make informed decisions. In the present study, one overarching purpose was to demonstrate how research may serve as a bridge between academia and practice by adding empirical clarity to the ways journalists may enact SJN's rigors. In the narrative, we addressed the SJN because they are the primary group responsible for defining, advancing, and training journalists. We assessed whether solutions journalism content was rigorous with research indicating that journalists would mostly likely follow the evidence rigor, but more research is needed in a solutions journalism context.

RQ1: To what extent do solution journalism articles follow the Solutions Journalism Network's rigors?

RQ1a: To what extent do solutions journalism articles include the *response* (*how-to)* rigor?

RQ1b: To what extent do solutions journalism articles include the *evidence* rigor?

RQ1c: To what extent do solution journalism articles include the *limitations* rigor?

RQ1d: To what extent do solution journalism articles include the *insights* rigor?

Global Solutions Journalism

The majority of the SJN's collection of articles are produced by journalists based in the US, followed by newsrooms in Europe and Africa. The organization expanded its educational efforts in Africa in recent years, creating the Solutions Journalism Africa Initiative in 2020, wherein SJN partnered with two local organizations—Nigeria Health Watch and Science Africa—to offer training and engagement in at least 60 newsrooms across the continent (Simmonds 2020). SJN offers regular and similar training for journalists in the US and Europe. In 2022, the organization announced a partnership with the European Journalism Centre to launch a Solutions Journalism Accelerator program to provide funding and training (SJN, n.d.).

Thier and Namkoong (2023) argued comparative research was needed to determine whether different press and political systems influence the practice of solutions journalism. SJN's solutions training efforts in the US, Europe, and Africa appear similar in nature, but differences in media systems may override reporters' training. The Worlds of Journalism Study revealed reporters from Africa believed political and economic forces had the highest level of influence on their work, whereas those in the US and most European areas stated the influence was low (Hanitzsch et al. 2019). Although many African nations saw governments loosen media restrictions in the 1990s, recent laws enacted throughout Africa have threatened journalists' safety and freedom (Conroy-Krutz 2020). Meanwhile, support for government restrictions on the news media rose from 39% to 49% over the same period. Given these challenges to press freedoms, it is unclear whether reporters practicing solutions journalism in Africa will report as rigorously as their US and European counterparts.

US and European systems are more closely related given their historical and cultural connections. However, there are notable differences regarding their press objectives and freedoms. Within Europe, there are more restrictions on press freedom in some Eastern European countries due to threats of authoritarianism and interference from foreign investors (Tambini 2021). Conversely, countries in Northern and Western Europe are beacons for press freedom that far surpass the US, with Norway, Denmark, and Sweden leading the world on Reporters Without Borders' 2022 Press Freedom Index. Geographic disparities could lead to key differences in practice. Yet the US's standardization of the solutions journalism practice may also result in training journalists from a Western perspective. We created a *solutions journalism rigors index* to assess each article scoring it with a 0–4 with a score of 4 being the most rigorous to compute whether Africa, Europe, and the United States significantly differed in their performance in solutions reporting.

RQ2: To what extent does the adherence to rigors in solutions journalism news content differ among the three most prominent countries or continents (Africa, Europe, and the US) producing solutions journalism?

Content Analysis Method

Sampling Procedure

In 2016, the SJN created a database to house solutions journalism stories. We content analyzed text-based solutions journalism stories from Solutions Story Tracker database, which consisted of almost 17,100 global stories from 2,100 outlets in 98 countries. According to Walth, Dahmen, and Thier's (2019) interview with Samantha McCann, vice president of practice change at SJN, the database came from three sources: stories from the newsroom partnerships with SJN, stories submitted by members of the public, and stories found by SJN leaders. A small team of SJN story analysts filtered submitted stories from journalists, publishing about 50% of what they receive, according to McCann. Thus, the database is appropriate for research purposes because of the volume of filtered articles classified as rigorous solutions journalism by SJN.

Solutions journalism articles were collected and transferred into a spreadsheet using the Instant Data Scraper extension within the Google Chrome browser. Data scraping involves pulling information out of a website and putting it into spreadsheet form. The tool uses artificial intelligence to detect data for extraction and exports data into an Excel or CSV file. The scraper simply scrapes web content, or in this case–news articles, and it places each individual article into a spreadsheet row. Otherwise, we would have to copy and paste each article link into a spreadsheet. We scraped solutions news articles from 2009 to 2020. In the spreadsheet, articles were then sorted or eliminated based on the geographic location of publication as categorized by SJN. We selected Africa, US, and Europe because reporters in these regions produced enough articles necessary for a comparative analysis. Following that organizational procedure, we randomly selected news articles from the US and Europe strata groups using a random number generator due to the larger sample sizes because sample sizes that are too large lead to non-meaningful statistically significant results (Hair et al. 2010).

The Western sample consisted of a total of 5,737 articles from 705 US-based publications, and the European strata consisted of 584 stories from 68 different publications. We randomly selected a total 430 (215 each) articles from US and Europe. We chose to keep all 168 articles collected from 35 African-based publications, due to the strata sample size. Following the selection of 618 articles in the sampling frame in total, we then excluded articles that we could not access behind a paywall, as well as opinion articles, interview transcripts, and editorials. The final sample size consisted of 555 articles: US ($n = 232$, 41.8%), Europe ($n = 208$, 37.5%), and Africa ($n = 115$, 20.7%).

Content Measures

We designed the measures by reviewing research, following content analysis best practices (e.g., operationalizing latent measures to be more manifest), and pretesting the variables. A doctoral student and a university professor independently conducted three

rounds of pilot tests on articles not included in the sample, as well as three rounds of formal intercoder reliability to achieve sufficient reliability levels (Riffe et al. 2019). We began coding training in 2021 and completed it in 2022. Coders coded the presence or absence of each rigor variable. A solutions journalism rigors index was created by assigning one point for each rigor with each article receiving a score ranging from 0 to 4 because journalists are taught to abide by all four rigors in their training (SJN, n.d.). See Appendix 1 for coded examples representing each solutions journalism rigor under the Files navigation tab (https://osf.io/43tks/?view_only = bdaf1dffe6184dcc94011816824d258c).

Response (How-to). Information that details how a specific person or group carried out the solutions by providing tactical information or steps on how a solution sponsor implemented the solution. How-to must be technical or concrete instructions that provide explicit guidance on how to implement the reported solution. The description should provide details on how another news consumer could possibly scale and replicate the solution (Krippendorff's alpha, α = .70).

Evidence. The presentation of data or empirical observation to show the effectiveness of at least one solution. For anecdotal evidence (α = .72), coders were instructed to record it as present if the journalist cited human sources that discussed the effectiveness or direct impact of a solution on them. For quantitative evidence (α = .75), coders evaluated whether the journalists cited or provided numerical data associated with the effectiveness of a solution, such as studies or statistics associated with a solution. This variable was not coded if journalists cited people who spoke about what they heard from participants concerning the impact of a solution.

Limitations. The journalist's recognition of constraints, perceived obstacles, or weaknesses related to the implementation or maintenance of at least one solution to a social problem (α = .83).

Insights. Coders recorded whether a journalist communicated how a solution has the potential for impact beyond the point in time or context being reported on by the journalist. Insights was recorded when the journalist addressed how the reported context (e.g., people, institutions, sponsors) would be affected in the future by a solution or how a solution could have an impact beyond the reported context. Examples include the journalist or a source speculating about the potential impact of a solution on knowledge, human behavior, a disenfranchised group, an organization, societal health, etc. (α = .72).

Results

RQ1 investigated to what extent solutions articles followed solutions journalism rigors based on a descriptive analysis (see Table 1). The most followed rigor was evidence (62.0%), followed by the response (how-to) (56.2%), limitations (54.1%), and the insights (44.0%) rigors. We analyzed whether solutions journalists were likely to provide anecdotal or quantitative evidence associated with the evaluation of solutions. We found anecdotal evidence (43.8%) was more often provided than quantitative evidence (37.1%). The mean number of rigors present in articles was 2.2, which means most articles contained at least two (n = 169, 30.5%) rigors, followed by three rigors (n = 161, 29.0%) and one rigor (n = 119, 21.4%).

RQ2 queried whether geographic locations would significantly differ in their adherence to rigors in solutions journalism articles. A one-way ANOVA was performed to compare whether

Table 1. Rigors in solutions journalism articles.

Solutions Journalism Rigors	$n = 555$	%
1. Response (How-To)	$n = 312$	56.2%
2. Limitations	$n = 271$	54.1%
3. Insights	$n = 244$	44.0%
4. Evidence	$n = 314$	62.0%
■ Anecdotal Evidence	$n = 243$	43.8%
■ Quantitative Evidence	$n = 206$	37.1%

geographic locations significantly differed in their adherence to solutions journalism rigors in news articles (range 0-4). Results indicated no significant differences (F (2, 555) = 1.558, p = .54) when comparing Europe ($\mu = 2.2$), the US ($\mu = 2.2$), and Africa ($\mu = 2.1$).

Discussion

The overarching question investigating whether content has rigor is difficult to answer because the present study showed journalists typically included at least two rigors but rarely adhered to all four. Standards help solutions journalism communities of practice (i.e., journalists, trainers, educators) collectively create solutions journalism content and evaluate it. Overall, the results suggest more work remains to strengthen journalists' understanding of each rigor.

RQ1a investigated the degree that solutions journalism articles featured the *response* (i.e., replication) rigor. More than half of the articles (56%) included some information on how to implement a solution. We observed that snippets of the how-to information were often briefly summarized, while journalists focused to a lesser degree on offering procedural details, making it challenging to evaluate whether how-to information was being provided. Journalists may want to consider whether their information helps readers learn how to implement (i.e., replicate) the solution based on coder observations. Additionally, we also observed solutions articles often listed multiple solutions, making the focus less on investigating a particular solution but instead providing readers with an inventory of solutions associated with a particular societal problem. Multiple solutions make sense if one wants to compare solutions, but the article may be more informational if it concentrated on evaluating one solution in-depth.

RQ1b asked the extent solutions journalism articles included *evidence*. The majority (62%) contained evidence, meaning that many journalists understand the importance of reporting the constraints associated with implementing and maintaining the reported solution. Despite research showing that journalists perceive evidence as being quantitative (McIntyre and Lough 2021), journalists were more likely to provide first-person testimony rather than quantitative evidence. The reliance on sources is an ingrained, routine-driven practice, meaning that it is logical the dominant evidence cited was anecdotal (Carpenter, Peng, and Cepak 2018). Journalists should be cognizant they are often speaking with stakeholders who will likely employ a positive, pro-solution perspective. Thus, journalists should ask critical questions of sources to mitigate possible biases. Additionally, journalists often avoid data-driven forms of journalism due to a lack of training, literacy, or desire (Veglis and Bratsas 2017). Perhaps training could include guidance on how to engage solutions reporting from a data perspective.

The credibility of reporting is strengthened when journalists advise readers of the weaknesses of a solution, such as the narrow applicability or the unknowns associated with it (Price and Murnan 2004). RQ1c queried whether solutions journalists adhered to the *limitations* rigor, and we found 54% of articles contained limitations information. As a defining element of solutions journalism, it would be ideal to see that percentage be higher. Researchers often neglect reporting such information (Brutus, Aguinis, and Wassmer 2013; ter Riet et al. 2013). For example, more than a quarter of authors in biomedical journals did not discuss any limitations of their studies (ter Riet et al. 2013), while Ioannidis (2007) found only 17% of articles published in 2005 in natural science journals reported the limitations of their findings.

RQ1d investigated whether journalists followed the *insights* rigor, and we found this one was the least followed with 44% of articles including it. Insights require asking sources about the potential future impact of solutions, and this rigor requires journalists to reflect on how solution's information may be useful knowledge for readers. Implications, however, are often a neglected part in research studies in which writers explain how the research findings are useful because researchers need time to critically contemplate the potential benefits or longer-term implications of a study (Rymer 2011). One study found 51% of journal articles included explicit implications (Bartunek and Rynes 2010). Based on coder observations, most journalists interpreted insights as the possible impact or vision of a solution within the reported context in the future more so than reporting how the solution's information could be useful or scalable in other contexts. This finding makes sense because it is challenging to reflect how knowledge from a reported solution may be applied to similar contexts if one does not possess expertise in solving these problems (Miller, Shin, and Brannock Cox 2024).

RQ2 investigated whether media systems in Europe, the US, and Africa would significantly differ in their adherence to the rigors proposed by the SJN, revealing no significant differences. This finding may indicate that efforts undertaken by the SJN to train journalists across the three geographic locations have been largely similar. US educators and trainers are involved in the overseas training efforts (SJN, n.d.). For example, one exemplar publication that often followed all four rigors was the *Nigeria Health Watch*. This similarity may also reflect the sampling process in which we selected articles filtered by the SJN and database submitters are familiar with SJN. Thus, adherence to rigors may be more varied if it were feasible to collect a sample from a different source.

Conclusion

The results suggest more work remains if the SJN argues adherence to all four rigors is what makes solutions journalism rigorous. Rigor, synonymous with quality, involves a systematic approach concerning the construction and presentation of solutions journalism (Hays et al. 2016). SJN defines quality solutions journalism as new content that consists of four standards. SJN staff communicate prior to submitting a StoryTracker article for consideration that each article should contain all four rigors (https://storytracker.solutionsjournalism.org/submit). A small proportion (7.4%, $n = 41$) did not include a rigor based on our measures. Yet their previous approaches to vetting news content for inclusion for their database suggest that they did not verify that each piece of news content contained all four rigors, but rather likely they verified that each article contained

at least one rigor. Yet SJN (n.d., n.p.) has stated each news content piece should consist of all four rigors, "These criteria can be applied with flexibility for diverse narrative styles and story formats. Even with flexibility, each solution's story should contain *all four pillars to some degree*." Only 11.7% ($n = 65$) of the sample could be classified as exemplars, meaning that articles contained all four rigors, with *The Guardian* ($n = 12$, 18.5%), *The New York Times* ($n = 10$, 15.4%), *Nigeria Health Watch* ($n = 7$, 10.8%), and *Apolitical* ($n = 6$, 9.2%) representing most of the exemplars.

A database featuring articles that fail to meet their standards may cause confusion for educators and journalists on how to practice solutions journalism if they use these articles for guidance. The promotion of stories in their database that do not meet all four standards may be problematic as Thier (2016) discovered in her focus group research with university solution journalism instructors. She found instructors struggled with articulating the attributes of solutions journalism to their students. Students' confusion made it difficult for them to teach students how to report and construct solutions journalism articles. Upon graduation, interviewed graduated students viewed the practice of solutions journalism as credible and impactful, yet almost all (85%) respondents admitted to not incorporating all four rigors in their work (Lough, McIntyre, & Roff, 2024). And thus, training sessions may need to pivot toward the critique and practice of solution journalism given that findings suggest that journalists tend to embrace the concept after learning about it (Lough, McIntyre, & Roff, 2024), but do not know how to fully practice it.

SJN trainers could invest more in teaching participants about the rigors in training sessions, but they could serve journalists, students, and teachers unable to attend training sessions by providing a code sheet to conduct a solutions journalism audit or a check list on their website to help journalists and students assess whether solutions journalism content is rigorous. We provide our coding protocol as a starting point. In Appendix 2, we highlighted example text snippets to communicate how a journalist enacted each of the rigors for SJN in Appendix 1, and SJN could also highlight snippets or provide a database of exemplar examples for people seeking to learn or teach the practice. We offer SJN trainers, teachers, and journalists a list of exemplar text stories that meet their rigor standards based on our coding that could be utilized in their training in Appendix 3. All materials are available on an Open Science Framework (OSF) repository under the Files navigation tab (https://osf.io/43tks/?view_only = bdaf1dffe6184dcc94011816824d258c).

Limitations and Future Research

Content analyses such as this study may be helpful in identifying more appropriate stimuli for experiments to determine the precise impact of solutions journalism. Experimental research, for example, could compare the effects of stories with specific rigors or all four rigors. It may be fruitful to investigate specific topics, such as the climate crisis or food insecurity. Lough and McIntyre (2018), however, found solutions journalists viewed solutions reporting as topic-agnostic because they perceived it was appropriate for all reporting topics. It may also be fruitful to examine whether controversial topics may be more rigorous as journalists often increase their source number in controversial stories (Miller et al. 2025). One could conduct participant observations of solutions newsrooms to assess the decisions associated with the production of solutions news stories to determine whether and how they use rigors to construct stories. We could not determine

whether training had an impact, but one could assume that their awareness of SJN's Storytracker database may have meant they are aware of the practice of solutions journalism. A future study could examine the impact of training on their solutions journalism practice to determine whether training variations lead to more rigorous solutions journalism.

We centered our analysis on solutions news content vetted by the SJN staff, which means sampling procedures not using the database would likely see less adherence to rigors. Thus, one limitation is this sample cannot be generalized to all solutions journalism content. It would be challenging to develop a sampling frame without this database given the sporadic nature of the practice across news organizations because they often do not label content as solutions journalism for readers. We modified measures to assess whether journalists practice these rigors based on the present concepts representing solutions journalism. Future research could evaluate our theoretical/empirical interpretations or replicate this study to determine whether findings are similar in other contexts. In the future, researchers may need to revisit the extent to which these rigors align with the practice of solutions journalism as it matures including assessing the impact of practicing these rigors. Journalists, for example, may perceive that solutions journalism should be open to the practice of it from an advocacy, civic, non-western, justice, or engaged perspectives and they may find these rigors as barriers to their interpretation of solutions journalism. Overall, the intent of this project was to be of service to the SJN leadership and the practice as they interpret it in its present form.

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No potential conflict of interest was reported by the author(s).

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References

Abbott, A. 1988. *The System of Professions: An Essay on the Division of Labor*. Chicago, IL: The University of Chicago Press.

Aguilar, M. S. 2020. "Replication Studies in Mathematics Education: What Kind of Questions Would Be Productive to Explore?" *International Journal of Science and Mathematics Education* 18 (S1): 37–50. https://doi.org/10.1007/s10763-020-10069-7

American Psychological Association. 2009. *Publication Manual of the American Psychological Association*. Washington, DC: American Psychological Association.

Babbie, E. 2009. *The Practice of Social Research*. Belmont, CA: Wadsworth Cengage Learning.

Bartunek, J., and S. Rynes. 2010. "The Construction and Contributions of "Implications for Practice": What's in Them and What Might They Offer?" *Academy of Management Learning & Education* 9 (1): 100–117.

Bastow, S., P. Dunleavy, and J. Tinkler. 2014. *The Impact of the Social Sciences: How Academics and Their Research Make a Difference*. Thousand Oaks, CA: SAGE.

Becker, H. S. 2007. *Writing for Social Scientists*. Chicago, IL: The University of Chicago Press.

Benesch, S. 1998. "The Rise of Solutions Journalism." *Columbia Journalism Review* 36 (6): 36–39.

Bornstein, D., and T. Rosenberg. 2021, Nov. 11. If We Can report on the problem, We Can report on the solution. *The New York Times*. Retrieved from: https://www.nytimes.com/2021/11/11/opinion/fixes-solutions-journalism-lessons.html.

Boykoff, M. T., and J. M. Boykoff. 2004. "Balance as Bias: Global Warming and the U.S. Prestige Press." *Global Environmental Change* 14 (2): 125–136. https://doi.org/10.1016/j.gloenvcha.2003.10.001

Brannock Cox, J., S. Miller, and S. Y. Shin. 2024. "The News Sourcing Practices of Solutions Journalists in Africa, Europe, and the U.S." *Journalism Practice* 1–17. https://doi.org/10.1080/17512786.2024.2394556

Brutus, S., H. Aguinis, and U. Wassmer. 2013. "Self-reported Limitations and Future Directions in Scholarly Reports: Analysis and Recommendations." *Journal of Management* 39 (1): 48–75. https://doi.org/10.1177/0149206312455245

Carpenter, S., Z. Peng, and A. Cepak. 2018. "An Exploration of the Complexity of Journalistic Interviewing Competencies." *Journalism Studies* 19 (15): 2283–2303. https://doi.org/10.1080/1461670X.2017.1338155

The Catalyst Journalism Project. 2019. *Solutions Journalism Educators Academy*. Portland, OR: Solutions Journalism Network.

Coddington, M., and L. Molyneux. 2023. "Making Sources Visible: Representation of Evidence of News Texts, 2007-2019." *Journalism Practice* 17 (4): 664–682. https://doi.org/10.1080/17512786.2021.1949629

Conroy-Krutz, J. 2020. "The Squeeze of African Media Freedom." *Journal of Democracy* 31 (2): 96–109. https://doi.org/10.1353/jod.2020.0024

Daft, R. L. 1995. "Why I Recommended That Your Manuscript Be Rejected and What You Can Do about It." In *Publishing in the Organizational Sciences*, edited by L. L. Cummings and P. J. Frost, 164–182. Thousand Oaks, CA: Sage.

De Lone, R. H. 1990. *Replication: A Strategy to Improve the Delivery of Education and job Training Programs*. New York, NY: Public/Private Ventures.

Dunwoody, S. 2005. "Weight-of-evidence Reporting: What Is It? Why use It?" *Nieman Reports* 59 (4): 89–91.

Ettema, J. S., and T. L. Glasser. 1985. "On the Epistemology of Investigate Journalism." *Communication* 8:183–206.

Fahy, D. 2018. "Objectivity as Trained Judgment: How Environmental Reporters Pioneered Journalism for a "Post-truth" era." *Environmental Communication* 12 (7): 855–861. https://doi.org/10.1080/17524032.2018.1495093

Firmin, M. W. 2008. "Replication." In *The SAGE Encyclopedia of Qualitative Research Methods*, edited by L. M. Given, 754–755. Thousand Oaks, CA: SAGE.

Garcia, A. J. 2017. "Social Implications of Research." In *The Sage Encyclopedia of Communication Research Methods*, edited by M. Allen. Thousand Oaks, CA: SAGE.

Giltrow, J., R. Gooding, D. Burgoyne, and M. Sawatsky. 2014. *Academic Writing: An Introduction.*Peterborough, ON: Broadview Press.

Hair Jr, J. F., W. C., Black, B. J. Babin, and R. E. Anderson. 2010. *Multivariate Data Analysis*. :Upper Saddle River, NJ: Prentice Hall.

Hanitzsch, T., F. Hanusch, J. Ramaprasad, and A. S. de Beer. 2019. *Worlds of Journalism: Journalistic Cultures around the Globe*. New York, NY: Columbia University Press.

Hays, D. G., C. Wood, H. Dahl, and A. Kirk-Jenkins. 2016. "Methodological Rigor in *Journal of Counseling & Development* Qualitative Research Articles: A 15-Year Review." *Journal of Counseling & Development* 94 (2): 172–183. https://doi.org/10.1002/jcad.12074

Hiles, S. S., and A. Hinnant. 2014. "Climate Change in the Newsroom: Journalists' Evolving Standards of Objectivity When Covering Global Warming." *Science Communication* 36 (4): 428–435. https://doi.org/10.1177/1075547014534077

Hinnant, A., M. E. Len-Ríos, and R. Young. 2013. "Journalistic use of Exemplars to Humanize Health News." *Journalism Studies* 14 (4): 539–554. https://doi.org/10.1080/1461670X.2012.721633

Houston, B. 2009. *Investigative Reporter's Handbook: A Guide to Documents, Databases, and Techniques."* New York, NY: Bedford/St. Martin's.

Ioannidis, J. 2007. "Limitations Are Not Properly Acknowledged in the Scientific Literature." *Journal of Clinical Epidemiology* 60 (4): 324–329. https://doi.org/10.1016/j.jclinepi.2006.09.011

Kleemans, M., N. H. Rde Leeuw, J. Gerritsen, and M. Buijzen. 2017. "Children's Responses to Negative News: The Effects of Constructive Reporting in Newspapers Stories for Children." *Journal of Communication* 67 (5): 781–802. https://doi.org/10.1111/jcom.12324

Lewis, S. C., K. Kaufhold, and D. L. Larsorsa. 2010. "Thinking about Citizen Journalism." *Journalism Practice* 4 (2): 163–179. https://doi.org/10.1080/14616700903156919

Lingard, L. 2015. "The art of Limitations." *Perspectives on Medical Education* 4:136–137. https://doi.org/10.1007/S40037-015-0181-0

Loizzo, J., S. L. Watson, and W. R. Watson. 2017. "Examining Instructor and Learner Experiences and Attitude Change in a Journalism for Social Change Massive Open Online Course: A Mixed-Methods Case Study." *Journalism & Mass Communication Educator* 73:392–409. https://doi.org/10.1177/1077695817729586

Lough, K., and K. McIntyre. 2018. "Journalists' Perceptions of Solutions Journalism and Its Place in the Field." *ISOJ Journal* 8 (1): 33–52.

Lough, K., and K. Mcintyre. 2023. "A systematic review of constructive and solutions journalism research." *Journalism* 24 (5): 1069–1088.

Lough, K., K. McIntyre, and K. Roff. 2024. "Beyond the Classroom: Evaluating Solutions Journalism Education from the Perspectives of University Graduates." *Journalism & Mass Communication Educator* 79 (3): 323–339. https://doi.org/10.1177/10776958241254152

McCann, S. 2016, November 28. Solutions journalism Is biased! (And Other myths). *The Whole Story*. https://thewholestory.solutionsjournalism.org/solutions-journalism-is-biased-and- other-myths-4b8f2beb69bf.

McIntyre, K. 2019. "Solutions Journalism: The Effects of including Solution Information in News Stories about Social Problems." *Journalism Practice* 13 (1): 16–34. https://doi.org/10.1080/17512786.2017.1409647

McIntyre, K., and K. Lough. 2021. "Toward a Clearer Conceptualization and Operationalization of Solutions Journalism." *Journalism* 22 (6): 1558–1573. https://doi.org/10.1177/1464884918820756

Merton, R. K. 1973. *The Sociology of Science: Theoretical and Empirical Investigations*. Chicago, IL: University of Chicago Press.

Meyer, P. 1973. *Precision Journalism*. Bloomington, IN: Indiana University Press.

Miller, S. 2019. "Citizen Journalism." In *Oxford Research Encyclopedia of Journalism Studies*, edited by H. Örnebring, 1–25. Oxford: Oxford University Press.

Miller, S., S. Shin, and J. Brannock Cox. 2024. "The Problem Solving Solutions Journalism Model: Treating News Audiences as Problem Solvers in Solutions Journalism." In *The Mainstream News Media in America: What's Wrong and How to fix It*, edited by J. Kuypers, 171–194. Lexington, MA.

Miller, S., B. Takahashi, R. Heo, and J. Cottrell. 2025. "Sustainability and Environmental Communities of Practice's Impact on News Content Diversity." *Journalism Practice* 19 (6): 1175–1196. https://doi.org/10.1080/17512786.2023.2253783

Newman, N. 2023. *Journalism, Media, and Technology Trends and Predictions 2023*. Washington, DC: *Reuters Institute*. Retrieved from: https://reutersinstitute.politics.ox.ac.uk/sites/default/files/202301/Journalism_media_and_technology_trends_and_predictions_2023.pdf.

Ohlsson, S. 1984. "Restructuring Revisited." *Scandinavian Journal of Psychology* 25 (1): 65–78. https://doi.org/10.1111/j.1467-9450.1984.tb01001.x

O'Meara, K. 2010. "Rewarding Multiple Forms of Scholarship: Promotion and Tenure." In *Handbook of Engaged Scholarship, Volume 1: Institutional Change*, edited by H. E. Fitzgerald, C. Burack, and S. D. Seifer, 271–294. East Lansing, MI: Michigan State University Press.

Palen, J. A. 1999. "Objectivity as Independence: Creating the Society of Environmental Journalists: 1989-1997." *Science Communication* 21 (2): 156–171. https://doi.org/10.1177/1075547099021002004

Powers, E., and A. Curry. 2019. "No Quick fix: How Journalists Assess the Impact and Define the Boundaries of Solutions Journalism." *Journalism Studies* 20 (15): 2237–2257. https://doi.org/10.1080/1461670X.2019.1586565

Price, J. H., and J. Murnan. 2004. "Research Limitations and the Necessity of Reporting Them." *American Journal of Health Education* 35 (2): 66–67. https://doi.org/10.1080/19325037.2004.10603611

Price, J. H., J. Murnan, J. A. Dake, J. Dimmig, and M. Hayes. 2004. "Mail Survey Return Rates Published in Health Education Journals: An Issue of External Validity." *American Journal of Health Education* 35 (1): 19–23. https://doi.org/10.1080/19325037.2004.10603600

Pyrczak, F., and R. R. Bruce. 2014. *Writing Empirical Research Reports: A Basic Guide for Students of the Social and Behavioral Sciences*. Glendale, CA: Pyrczak Publishing.

Reich, Z., and A. Barnoy. 2023. "Justifying the News: The Role of Evidence in Daily Reporting." *Journalism* 24 (1): 22–40. https://doi.org/10.1177/14648849211036835

Riet, G., P. Chesley, A. G. Gross, L. Siebeling, P. Muggensturm, N. Heller, M. Umbehr, et al. 2013. "All That Glitters Is Not Gold: A Survey on Acknowledgment of Limitations in Biomedical Studies." *PLoS One* 8 (11): e73623. https://doi.org/10.1371/journal.pone.0073623

Riffe, D., S. Lacy, F. Fico, and B. Watson. 2019. *Analyzing Media Messages*. Abingdon, Oxfordshire: Routledge.

Robinson, S., and K. B. Culver. 2019. "When White Reporters Cover Race: News Media, Objectivity, and Community (dis)Trust." *Journalism* 20 (3): 375–391. https://doi.org/10.1177/1464884916663599

Rosenwald, M. S. 2023, Nov. 9. Philip Meyer, Reporter Who Brought Data Crunching to Newsrooms, Dies at 93. *The Washington Post*. Retrieved from https://www.washingtonpost.com/obituaries/2023/11/09/philip-meyer-computer-assisted-reporting-pioneer-dies/.

Rymer, L. 2011. *Measuring the Impact of Research—The Context for Metric Development*. ACT, Australia: The Group of Eight.

Sanyal Tarafdar, S. 2024. 7 Ways to Stay Smart on Your SoJo Journey. *The Whole Story*. Retrieved from https://thewholestory.solutionsjournalism.org/7-ways-to-stay-smart-on-your-sojo-journey-31e3ff9e2217.

Schensul, J. 2008. "Methodology." In *The SAGE Encyclopedia of Qualitative Research Methods*, edited by L. M. Given, 517–521. Thousand Oaks, CA: Sage.

Shipman, M. 1997. *The Limitations of Social Research*. Indianapolis, IN: Addison Wesley Longman.

Simon, J., Valenti, J. M., and Sachsman, D. B. 2011. *Environment Reporters in the 21st Century* (Vol. 1). Transaction Publishers.

Simmonds, M. 2020, December 3. The Solutions Journalism Africa Initiative. *Medium*. https://thewholestory.solutionsjournalism.org/the-solutions-journalism-africa-initiative- 9c3efd9acc14.

Solutions Journalism Network. 2016, November. The Solutions Journalism Toolkit. https://reedkath.files.wordpress.com/2017/04/new-sjn-toolkit-20162.pdf.

Solutions Journalism Network. 2017, September 25. Ten Questions to Inform Your Solutions Journalism. *The Whole Story*. https://thewholestory.solutionsjournalism.org/the-ten- noble-questions-f7b97d137135.

Solutions Journalism Network. n.d. What Is Solutions Journalism? https://www.solutionsjournalism.org/about/solutionsjournalism.

Stanford Encyclopedia of Philosophy. 2015. The Legal Concept of Evidence. https://plato.stanford.edu/entries/evidence-legal/.

Sukharchuk, D. 2017, April 18. What Makes a Successful Solutions Journalism Story? *International Journalists' Network*. https://ijnet.org/en/story/what-makes-successful-solutions-journalism-storyter

Tambini, D. 2021, September 16. What the EU's Media Freedom Act Could mean for journalism in Europe. *The London School of Economics and Political Science*. https://blogs.lse.ac.uk/europpblog/2021/09/16/what-the-eus-media-freedom-act-could-mean-for-journalism-in-europe/.

Tandoc, E. C., and B. Takahashi. 2014. "Playing a crusader role or just playing by the rules? Role conceptions and role inconsistencies among environmental journalists." *Journalism* 15 (7): 889–907.

Thier, K. 2016. "Opportunities and Challenges for Initial Implementation of Solutions Journalism Coursework." *Journalism & Mass Communication Educator* 71 (3): 329–343. https://doi.org/10.1177/1077695816666078

Thier, K., and K. Namkoong. 2023. "Identifying Major Components of Solutions-Oriented Journalism: A Review to Guide Future Research." *Journalism Studies* 24 (12): 1557–1574. https://doi.org/10.1080/1461670X.2023.2230314

Tuchman, G. 1978. *Making News: A Study in the Construction of Reality*. New York, NY: The Free Press.

Veglis, A., and C. Bratsas. 2017. "Reporters in the age of Data Journalism." *Journal of Applied Journalism & Media Studies* 6 (2): 225–244. https://doi.org/10.1386/ajms.6.2.225_1

Villi, M., T. Aharoni, K. Tenenboim-Weinblatt, P. J. Boczkowski, K. Hayashi, E. Mitchelstein, A. Tanaka, and N. Kliger-Vilenchik. 2022. "Taking a Break from News: A Five-Nation Study of News Avoidance in the Digital era." *Digital Journalism* 10 (1): 148–164. https://doi.org/10.1080/21670811.2021.1904266

Voakes, P. S. 2004. "A Brief History of Public Journalism." *National Civic Review* 93 (3): 25–35. https://doi.org/10.1002/ncr.58

Waisbord, S. 2019. *The Communication Manifesto*. New York, NY: Polity Press.

Walth, B., N. S. Dahmen, and K. Thier. 2019. "A new Reporting Approach for Journalistic Impact: Bringing Together Investigative Reporting and Solutions Journalism." *Newspaper Research Journal* 40 (2): 177–189. https://doi.org/10.1177/0739532919834989

Wenzel, A., D. Gersen, and E. Moreno. 2016, April 26. Engaging Communities through Solutions Journalism. *Columbia Journalism Review*. Retrieved from: https://www.cjr.org/towcenterreports/engagingcommunitiesthroughsolutionsjournalism.ph.

Wihbey, J. 2016. "Journalists' use of Knowledge in an Online World. Examining Reporting Habits, Sourcing Patterns and Institutional Norms." *Journalism Practice* 11 (10): 1267–1282. https://doi.org/10.1080/17512786.2016.1249004

Zamith, R. 2019. "Transparency, interactivity, diversity, and information provenance in everyday data journalism." *Digital Journalism* 7 (4): 470–489.