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Media Literacy and Fact-checking as Proactive and Reactive Responses to Misinformation in Kenya and Senegal

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Abstract

This study examines how media professionals in Kenya and Senegal respond to misinformation using fact-checking and media literacy strategies and how they perceive these strategies for mitigating the spread of misinformation. We conducted 42 semi-structured in-depth interviews with people belonging to one of the following three groups: individuals employed in the news media such as journalists, reporters, and editors; individuals working for either independent fact-checking organizations or doing fact-checking within the newsrooms of online and offline media; and individuals engaged in media policymaking. Findings indicate that media professionals in both Senegal and Kenya employ fact-checking strategies such as cross-checking of information from primary, secondary, and expert sources and verifying images and videos using reverse image search as reactive strategies. Media literacy as a proactive strategy to equip media producers and consumers with the capabilities to critically engage with media content was also observed. Lastly, journalists, fact-checkers, and policymakers lauded fact-checking and media literacy as effective strategies for mitigating the spread of misinformation, suggesting that both strategies should be used simultaneously for empowering both media consumers and producers against misinformation.

Keywords

fact-checking, media literacy, misinformation, Kenya, Senegal

The spread of misinformation in Africa is not new, but it has accelerated across the continent in recent years (Mare et al. 2019; Wasserman 2020). Research shows that people believe they are exposed to misinformation regularly and find it quite difficult to determine the veracity of content (Madrid-Morales et al. 2021). Fact-checking and media literacy education have been offered as two responses to misinformation. Fact-checking, which occurs *after* false information has circulated, is a *reactive* response to misinformation, while media literacy education can occur *before* exposure to false information and can be applied to more than one specific piece of false content as a *proactive* response (Hameleers 2022). The complex and messy information ecosystem requires a combination of approaches to address misinformation more effectively (Bode & Vraga, 2021). Moreover, the lines between fact-checking and media literacy are increasingly blurred as fact-checking organizations embed media literacy education and interventions into their content and promote it as a set of skills that audiences can build and apply to their own news and information practices (Singer & Tully, 2022).

To better understand the relationship between fact-checking and media literacy and to explore how media professionals employ various fact-checking and media literacy strategies in their work (Singer & Tully, 2022), we conducted 42 in-depth interviews with media professionals in Kenya (n=22) and Senegal (n=20) in 2021. We recruited media professionals who belonged to one of three categories: a) those working in the news media (e.g., journalists, reporters, editors); b) those involved in fact-checking, and c) those involved in making media policy or exerting some influence over policymaking (e.g., government officials, think tank and NGO employees, academics).

Interviews focused on media professionals' experiences with creating and disseminating news and information, addressing misinformation directly (with a focus on Covid-19), fact-

checking, and media literacy. Participants were asked to share their own experiences and opinions about various approaches to addressing misinformation. We focus on fact-checking and media literacy interventions as two common and interrelated responses that address misinformation directly and provide audiences with knowledge, skills, tools, and resources to engage in their own verification processes.

Findings show that media professionals and fact-checkers adopt various techniques such as cross-checking information and verifying images and videos as fact-checking techniques as well as engaging in media literacy trainings to both content creators and content consumers as techniques aimed at mitigating the spread of misinformation. Media professionals perceive fact-checking and media literacy as crucial techniques that should be adopted by both media houses and consumers as strategies for combating misinformation. Before describing our methods and findings, we provide an overview of misinformation in Africa and the role of media literacy and fact-checking as responses to misinformation in Africa.

Misinformation in Africa

Wardle and Derakhshan (2017) use the concept of “information disorder” or “information pollution” to describe the prevalence of falsehoods in the modern media environment. Recent studies have also shown that countries in Africa are not immune to this phenomenon (Tully et al., 2021; Ncube & Mare, 2022; Wasserman, 2020; Lungu & Mtembu, 2019). The control of media by the African states has long maintained the audiences in a situation where propaganda and misinformation were commonplace, and the audiences lived with “non-truths” for decades (Mustvairo & Babawi, 2019). The prevalence of state-owned media and the tendency of the media to target elites explain why media appear corrupt and exempt from accountability to the broader public (Ireru, 2016; Obuya, 2021). Studies show that the primary sources of

misinformation are politicians and national elites, who exploit "information vacuums" (Ncube, 2019, p. 44). In this context of media distrust, rumors spread exponentially. Wasserman and Madrid-Morales (2019) found that, in three of the largest democracies on the continent, Nigeria, Kenya, and South Africa, news consumers believe they are exposed to misinformation online frequently. Studies done in Zimbabwe (Munoriyarwa & Chambwera, 2020), Nigeria (Okora & Emmanuel, 2018), and Eswatini (Lunga & Mthembu, 2019) indicate that journalists also struggle to analyze large amounts of content to find what is true and what is not. According to Mare, Mabweazara, and Moyo (2019), factors that underpin the spread of misinformation in Africa include "resource-constrained newsrooms, an ever-shifting communication ecology, realignment of the relationship between producers and consumers of content, digitalization of political communication, media repression, digital literacy and competencies and competing regimes of truth and non-truth" (p.1). The consequence of exposure to and consumption of misinformation include a surge of violence, a rise in xenophobic, and political unrest (Adegoke, 2018; Nur, 2019; Chenzi, 2020), as well as harm to the individual and public health (McLaughlin, 2020).

Fact-Checking and Media Literacy as Responses to Misinformation

Kenya has been dubbed as the "Silicon Savannah" because of its high internet penetration and technological advancement on the African continent. Similarly, Rwanda and Uganda are also undergoing a "technological revolution" as they become high-tech hubs (Linshi, 2015, para. 4; Srinivasan et al., 2021). However, research shows that most African countries still lag when it comes to digital news literacy leading to a rapid spread of misinformation (Cohen et al., 2022). On the other hand, Ecker et al. (2023) argue that the prevalence of false information in modern media should not be attributed only to technology and the lack of access to high-quality

information. They argue that cognitive, social, and affective processes contribute to the rise of misinformation and the formation of false beliefs.

To combat the spread of false narratives and mitigate their impacts, various approaches such as fact-checking and media literacy have been proposed (Clayton et al., 2020; Tully et al., 2022). While more scholarly efforts have been directed towards fact-checking (Nyhan et al., 2019; Wood & Porter, 2019), research on media literacy, especially in the Global South, is limited (Tully et al., 2020; Tully 2022). Additionally, little research has been done on the effectiveness of combining fact-checking and media literacy approaches (Clayton et al., 2020; Vraga et al., 2020). Similarly, given the existing body of research indicating the difficulties in changing public opinion through fact-checking and the potential underutilization of fact-checking and verification services by journalists, it becomes crucial to examine perceptions of these services.

Fact-checking

The practice of fact-checking involves verifying the accuracy and truthfulness of statements or information presented in news articles, social media posts, or other media sources (Brandtzaeg et al., 2018; Matanji & Bosch, 2022). As misinformation remains a significant threat to news organizations, fact-checking has become a crucial tool for verifying information. This approach is not limited to traditional journalists but also includes other actors in the industry (Cheruiyot & Ferrer-Conill, 2018). In fact, fact-checking has been recognized as one of the most important non-governmental responses to disinformation (Saurwein & Spencer-Smith, 2020). Consequently, it has been adopted worldwide to curb the spread of misinformation. Its importance has led to the rise of fact-checking organizations in sub-Saharan Africa (Baker, 2015; Ababakirov et al., 2022).

The widespread dissemination of false information on social media platforms has led to a loss of trust in traditional media outlets (Bounegru et al. 2017). In response, independent organizations such as AFP, Pesa Check, and Africa Check have implemented fact-checking measures to combat misinformation. Research has shown that fact-checking can reduce misperceptions of misinformation on social media platforms (van der Meer & Jin, 2020; Walter et al., 2020). Also, fact-checks can provide a clear and direct verdict on the accuracy of a given article. For example, during a sit down with journalists to explain his government policies over the annual budget, the president of Kenya, William Ruto made twelve claims of which four were proven correct, one exaggerated, one unproven, and six proven incorrect by Africa Check (Africa Check, 2023). However, the current polarized media landscape presents a challenge for fact-checking to be effective (Farnsworth & Lichter, 2016; Nyhan & Reifler, 2015). For example, Jennings and Stroud (2021) found that partisanship affects responses to fact-checking, with Republicans in the United States being unlikely to change their beliefs about misinformation even if it is accompanied by a fact-check.

The effectiveness of fact-checking in benefiting citizens is not always straightforward. Some studies have explored the ability of fact-checking to correct misinformation and its impact on people's beliefs. For example, Nyhan and Reifler (2015) found that individuals with a high level of interest and knowledge about politics were more likely to be interested in fact-checking, but Republicans tended to view fact-checking unfavorably. Similarly, Zhou and Shen (2022) discovered that when individuals are presented with corrective messages, they tend to interpret them in a way that confirms their pre-existing beliefs or biases. While there is debate over whether fact-checking leads to changes in beliefs, research shows that it does reduce belief in misinformation (Carnahan & Bergan, 2021; Nyhan et al., 2019).

Scholars have conducted extensive research on how individuals engage with news and verify information in a world characterized by dis- and misinformation. Wagner and Boczkowski (2019) found that Americans used fact-checking as a tool to verify the information they consumed online, like how they used search engines like Google. However, Schwarzenegger's (2020) study found that Germans were so skeptical of the media that they didn't see the need for fact-checking. Similarly, Chang's (2021) research in Taiwan found that only a small percentage of respondents used fact-checking to authenticate information, relying instead on their personal evaluations. In Kenya, Tully (2022) found that individuals cross-checked unreliable online information with more reliable sources to verify its accuracy. Meanwhile, in Senegal, political party manifestos are now placing greater emphasis on ensuring the accuracy of their statistical data (Cunliffe-Jones, 2020). However, little research has been conducted on how media professionals and audiences employ various fact-checking procedures to detect and mitigate the threat of misinformation (Tandoc et al., 2018; Chang, 2021) and how they perceive the effectiveness of fact-checking (Hameleers, 2022).

Media literacy

While fact-checking is a useful way to combat specific false claims and misinformation, it occurs *after* claims have been made, making it inherently reactive. Media literacy education, on the other hand, offers a proactive response to prepare audiences to engage with information more effectively. Media literacy education encourages audiences to analyze and evaluate information (Aufderheide, 1993; Scharrer & Zhou, 2022), making it relevant in the context of misinformation (Lee, 2018). Vraga et al. (2012) note that media literacy education teaches audiences to analyze and deconstruct media messages and understand the process of message construction.

Jeong et al. (2012) suggest that news media literacy can improve critical skills by educating people on how news content is created and consumed, enhancing knowledge of the potential impact of information, and revealing the gap between mediated and external realities. Similar sentiments have been expressed by Hobbs (2022) who argues that media literacy education can help consumers resist clickbait, discern fake content and hoaxes, understand how influencers sway the public opinion, and identify quality journalism. In African countries, where digital media is gaining popularity (Statista, 2023), media literacy skills are crucial for users to assess the quality of information.

While Tully (2022) notes a lack of media or news literacy studies in Kenya, she emphasizes that Kenyans engage in media literacy activities by checking multiple sources of news and information and engaging in other content verification strategies. These strategies include searching for more information, using multiple search engines, verifying if news is from trusted sources, and responding to misinformation by removing content (Tully, 2022; Wagner & Boczkowski, 2019). Enhancing media literacy skills through formal and informal educational interventions can enable African audiences to critically evaluate information and develop a more nuanced understanding of the issues being covered.

In regions with low education levels, developing media literacy skills can help audiences to identify false information, communicate the consequences of false messages, and learn to distinguish between facts and false narratives (Clayton et al., 2020; Tully et al., 2020). Additionally, media literacy skills can assist audiences in identifying reliable sources and improving their ability to detect false narratives. Masterman (1985) argues that widespread media literacy is essential for citizens to wield power, make rational decisions, become effective change agents, and engage effectively with the media.

However, despite its importance, media literacy is rarely taught in most African countries. As of June 2020, media literacy is only minimally included in the curricula of seven sub-Saharan countries (Cunliffe-Jones et al., 2021). For instance, the new education curriculum in Kenya includes elements of media and information literacy such as critical thinking and digital literacy but does not emphasize misinformation literacy. Similarly, the long-standing curriculum in Senegal only covers computer science skills without including any mention of misinformation literacy (Cunliffe-Jones et al., 2021).

Combining fact-checking and media literacy approaches can effectively reduce the spread and perceived accuracy of misinformation, both within individual countries and across different nations. While much of the research on misinformation and corrections has focused on the Global North, it is crucial to examine this issue in other settings (Hameleers, 2022), including the Global South. Media literacy interventions can be particularly effective in helping audiences in countries such as Kenya and Senegal to become more discerning media consumers by teaching them how to identify biases, evaluate evidence, and recognize common forms of misinformation. In parallel, fact-checking efforts, which have gained prominence in sub-Saharan Africa (Ababakirov et al., 2022), can directly counteract the spread of misinformation by providing clear and accurate information that contradicts false or misleading claims. By reducing the perceived accuracy of misinformation, fact-checkers can make it less likely to be shared and believed by others. Considering these discussions, we ask: *(1) What fact-checking and media literacy strategies do media professionals employ in their work to combat misinformation? (2) What is the perception of media professionals towards the effectiveness of these strategies to combat misinformation?*

Methods

To address our research questions, we conducted 42 semi-structured in-depth interviews with people belonging to one of the following three groups: individuals employed in the news media such as journalists, reporters, and editors; individuals working for either independent fact-checking organizations or doing fact-checking within the newsrooms of online and offline media; and individuals engaged in policy-making or involved in tasks with the potential to influence policymaking such as government officials, staff at think tanks and NGOs, and academics working in the area of media and regulation. We conducted 22 interviews in Kenya and 20 in Senegal (See Appendixes I and II) after approval by Institutional Review Boards of [REDACTED FOR REVIEW]. We used both purposive and snowball sampling to recruit participants. That is, we drew on personal contacts to identify a first group of potential interviewees and, then asked those who agreed to participate in the interviews to provide additional names that we could approach. Most interviews were conducted online via videoconferencing software between March and June 2021 but, in some cases, we did the interviews over the phone to overcome internet connection issues. We guaranteed anonymity to all interviewees, and therefore we refer to them using IDs that include a country code (KE for Kenya and SN for Senegal) and a number.

For each of the three groups of respondents, we prepared a slightly different interview guide, focused on their area of expertise. For instance, journalists and editors were asked about news production routines and how they were impacted by misinformation, while fact-checkers were asked about the processes they follow to fact-check stories. Aside from the questions specific to each group, all participants were asked about a range of similar issues including details about their professional roles, their views on misinformation, and ways in which misinformation could be tackled in their countries. All interview guides also included questions

related to media and information literacy, such as “What are your thoughts on approaches developed around media literacy? Other similar education-based approaches?” On average, interviews lasted 46 minutes (Min = 23 minutes; Max = 68 minutes). After translating interviews from French (when relevant) and transcribing the audio recordings of the interviews, we used NVivo, a computer program commonly used for qualitatively analyzing texts (Baseley & Jackson, 2013), to thematically analyze the content of the interviews. We did so in an iterative process that involved three stages. First, we created a list of themes based on the topics included in the questionnaires. We then coded a random sample of transcriptions using this initial list of topics. During this process we identified new topics that were added to the codebook. The final version of the codebook includes seven themes and 51 sub-themes. A copy of the codebook can be obtained from the corresponding author. Using this final codebook, all authors participated in the coding of all 42 interviews.

Findings

In this study, we look at fact-checking and media literacy as strategies to address misinformation. To address our first question, we look at the procedures that media professionals employ to combat misinformation as they carry out their duties with a focus on fact-checking and media literacy strategies. To respond to our second question, we examine perceptions of effectiveness of employing fact-checking and media literacy to combat misinformation.

Fact-checking Practices and Perceptions

Fact-checking as a reactive strategy for addressing misinformation has gained traction as a method of mitigating its spread. According to our findings, both fact-checkers and journalists are involved in verifying and determining the accuracy of information shared publicly (e.g., verifying posts made by social media users) or content created internally to be disseminated by

the media house (i.e., checking the accuracy of claims before publishing). The most popular fact-checking services mentioned by the participants are PesaCheck, Piga Firimbi, and Africa Check. When we asked both media professionals what they do to deal with misinformation in their respective countries, they indicated various procedures that they use to verify the authenticity of text, audio, images, and videos. Among the techniques they mentioned are cross-checking information across sources and using image and video verification tools. They disseminate their fact-checks in various formats such as writing reports, posting on social media, and making short videos about debunked content and sharing it with the audience.

Cross-checking Information

Checking the veracity of information by verifying claims, events, and speeches is one of the strategies that media professionals as well as fact-checkers employ to combat misinformation (Barua et al., 2020; Trevisan Fossá & Müller, 2019). Our findings indicate that media professionals in Kenya and Senegal cross-check information for authenticity before it is disseminated to the audience. They do this by contacting the primary and secondary sources of information to confirm the authenticity of the content in question. They might also contact an expert in the area to seek for their opinion with regards to the content in question. The participants defined experts as people who have professionally specialized in that specific area or are regular media content contributors about the topic. This is similar to other findings which have also observed that cross-checking information can be done by using secondary sources of information (Paskin, 2018), confirming from the original source (Lazer et al., 2018), or consulting experts who are knowledgeable about the issue (Cohen et al., 2022). A Senegalese journalist that we interviewed explains how they check information received from sources and other media outlets:

As journalists, we were taught to cross-check information, to verify it. Today in Senegal, either we go directly to the source by verifying the information, by questioning the specialists to know the truth, to know the reality, is it true or not?

SN11

In addition to verifying information from source and experts, there is an emerging trend in media houses of setting up fact-checking desks to verify information before they disseminate it. As has been observed in Ghana among other regions, to tackle misinformation in both traditional and social media, media organizations are setting up fact-checking desks and training their journalists on the importance of fact-checking (CITI Newsroom, 2020). With the aim of preventing journalists and editors from spreading false information, participants said that media houses have trained their media professionals on how to cross-check information. As one Kenyan journalist explained:

We have a desk called checkpoint, the checkpoint basically, is it gives content to the other desks, that is contained in regard to data content in regard to fact checking and all that. So, like I said before... the key thing that we should be doing is, we should just make fact checking the basis or rather the foundation of our journalism. KE05

Participants engage in practices that resonate with both traditional approaches to verification and to newer approaches that are popular with fact-checking organizations in an attempt to prevent misinformation from spreading from their media houses and to address misinformation that has already circulated.

Verifying Images and Videos

In our interviews, participants described the process of checking the veracity of images and videos and their reliance on image and video verification tools. Images and videos from social media users pose a challenge because they combine media and sometimes mix true and false information. To check this content, media professionals use reverse image search techniques to check the authenticity of these posts.

Reverse image search uses a query method to retrieve image-based content. This technique is made possible because of geolocation and the existence of a huge number of available images online that the fact-checker can compare against (Bitirim et al. 2020). The most popular tool that interviewees mentioned is the Google reverse search tool. They use several cues such as geolocation using google maps to locate the exact place where the image was shot. Once the location has been identified, they can compare with the location indicated in the content of the image under investigation to look for any discrepancies. For videos, they use a tool called InVID to generate images of a video. These images are then geolocated using a reverse image search technique. As one of the fact-checkers from Kenya said:

We do reverse image searches; you'll be able to geolocate the place use Google Maps to geolocate the particular place that video was shot and use the cues that you're seeing... KE12

They also indicated that there are various topics that they don't fact-check. Topics about the future, religion, and people's personal opinions. In situations where there is no existing data about an issue under investigation, they also don't fact-check due to lack of evidence.

Perceived Effectiveness of Fact-checking

Media professionals in our study perceive fact-checking as an effective strategy that should be encouraged as a way of fighting misinformation. Even though there is a possibility of

infringing on peoples' freedom of expression when fact-checking claims, interviewees posited that factchecking is an effective way to verify content. As we have seen in response to our first research question and findings from previous studies, fact-checking and media literacy have been used as effective strategies for combating misinformation (Ha et al., 2022; Tully et al., 2021; Vraga et al., 2020). To understand how media professionals in our study perceive these strategies, we asked participants about their views on how effective these approaches are for addressing misinformation.

While recognizing the value of freedom of expression and expressing concern that the government or private sectors should not be ultimately responsible for ensuring the accuracy of information shared on media platforms, participants expressed the importance of fact-checking as an effective tool of fighting misinformation. Several African countries have shut down their internet with concerns that information shared online could result into anarchy. Even though not all the content shared on the internet is fake news, shutting down the internet restricts flow of information hence denying the general public access to useful information (Access Now, 2022). As Kozyreva et al. (2022) posited, when carrying out fact-checking, it is important to respect and uphold freedom of expression and protect the audience from harm resulting from misinformation. Most participants praised the social media companies; Twitter and Facebook, for containing false information shared by the former U.S. president, Donald Trump. However, those with contrary opinion raised concern that if left alone to fight misinformation, the government or institutions mandated with protecting the citizens might go rogue. Participants emphasized the need for flexible approaches to strategies such as fact-checking to be a community approach that does not infringe on people's freedom of expression as was observed in the case of Trump (Giella, 2021). As one of the Kenyan policymakers said:

Also recognizing that one entity, be it government be it private sector should not ultimately be responsible for checking some of these problems, but also just to be able to reinforce the protection of the rights to freedom of expression, and but also to facilitate flexible approaches to the moderation of some of this content. KE24

A policymaker posited that fact-checking is a crucial global tool for combating misinformation. The participant encouraged media houses, fact-checkers, and the general public to employ fact-checking in their daily media consumption and sharing routine as one strategy of identifying false information:

I believe that fact-checking is a very, very, very, very crucial tool. And a lot of platforms exist. Which a lot of fact checking platforms exist, not just in Kenya, but also across the region. In my opinion, fact, checking is a very, not just useful, but also practical and effective solution to deal with misinformation. KE24

Media Literacy Practice and Perceptions

Interviews suggest that journalists and fact-checkers engage in media literacy trainings to equip media consumers with technical-know-how on how to consume media content critically as a strategy of combating misinformation. They train media consumers on how to fact-check and verify the authenticity of content before posting on social media.

Training the audience how to fact-check content that they come across before sharing as a proactive measure helps mitigate the spread of misinformation by involving everyone and not just the professionals. In this way, fact-checking processes that professionals use in their own work are shared with audiences as a form of media literacy training (Singer & Tully, 2022). As this journalist from Kenya said:

I've seen organization do videos and tutorials online to just make sure that people are in the know about how to fact check the only information that's happening online, I've seen where they named Africa Check involving I think they have a podcast or something involving the audiences in how to do all these things that involves fact checking. KE12

Fact-checking organizations such as Africa Check and media organizations play a crucial role in not only fact-checking content but also training content consumers on how to verify content before posting on their social media and chat Apps. Such videos are translated into local languages for easier consumption by the local audience. By translating these training into local languages, they can reach content creators and consumers who may not be conversant with languages such as English and French. Participants described partnerships with community radio stations that disseminate their content in local languages to offer media literacy trainings in local languages. A Senegalese journalist that we interviewed described a project that involves translating information to Wolof:

We are producing content in Wolof that we are sharing to work through WhatsApp so it's how to say it's a two hands project. The one side is fact checking content. So if we have if we publish a fact check article we translate to summarize it in Wolof of, and, and record it in. So we do a voice record. And we disseminate to WhatsApp. And we also encourage the people to the public to contact us if they have a WhatsApp content that they want to verify the accuracy. And the other side of the project is also a media literacy content also shared through WhatsApp. And we partner also with a community radio that is that can republish the content we are producing and sharing on WhatsApp. So this is the this is a project that we

started last year. And, we, and we think that it's a, it's a very huge project, because it allows us to reach a wider audience and to reach an audience that is basically neglected by mainstream media and that we, as [Organization] neglected for a long time also. But now, with that project in Wolof, we think that we, we are filling a gap. SN11

Perceived Effectiveness of Media literacy

Media professionals in our study perceive media literacy as an effective longer-term solution for addressing misinformation because it extends beyond single false claims. They view media literacy as a proactive strategy that can empower audiences to be critical media consumers and to engage in their own fact-checking. Developing medial literacy – knowledge and skills – can enable audiences to be more discerning news and information consumers who are able to do some fact-checking, content verification, and correction of false information in their everyday lives. As one of the policy makers lamented, we cannot overlook media literacy as one of the strategies of combating misinformation. Similar sentiments were shared by a policymaker who said that:

The aim of factchecking is to grow media information literacy in the general public so that people don't consume information at face value. But rather, we learn to question these things in order for them to be able to understand them further. KE11

Journalists and fact-checkers from both Senegal and Kenya expressed a similar perception, emphasizing that media literacy among the consumers of media content to curb the spread of misinformation. They insisted on media literacy not only to the audience but the media professional themselves in addition to educating the public. With technology always advancing,

interviewees intimated that since media professionals also play a media literacy role, it is important for news literacy in newsrooms to be given a priority. Training media professionals and the public on how to fact-check content was also mentioned by media professionals as productive ways of combating misinformation as was reported by this journalist from Senegal:

I think that education that allows people to be educated about fake news, about the tools to use to check videos, still images, to check the facts, all of that can help fight against fake news. The key, in any case, is education. SN08

Discussion

Even though there is evolving research around misinformation, its impact in societies (Ha et al., 2019; Wasserman, 2017), and strategies such as fact-checking (Cheruiyot & Ferrer-Conill, 2018) and media literacy (Hobbs, 2022; Vraga & Tully, 2019) in Africa, there is limited research on how the strategies that media professionals and consumers employ to combat misinformation works. There is also limited knowledge about media professionals' perception of the effectiveness of these strategies. Hence, this study focused on how media professional employ fact-checking and media literacy to combat misinformation. We also look at how they perceive the effectiveness of these strategies to mitigate misinformation in Kenya and Senegal. We observed that media professionals employ various techniques to combat the spread of misinformation. We also observed that the interviewees have a positive sentiment towards fact-checking and media literacy as strategies to stop the spread of misinformation.

When we asked media professionals how they engage in fact-checking information, participants from both Senegal and Kenya identified cross-checking information and verifying images and videos as the major processes that they follow when fact-checking content. To cross-check information, they identify content that needs to be fact-checked, cross examine it by

comparing with the original sources, confirming with secondary sources, as well as consulting with experts who are knowledgeable about the issue. Media professionals also identified a trend where media houses are setting up fact-checking desks to verify content before it goes to the editing desk and later disseminated to the audience. This is a trend that has been observed in various media organizations in other countries too (Associated Press, 2022; Jamlab Contributor, 2022).

Verifying images and videos was also a popular technique employed by both media professionals and fact-checkers. They used a Google reverse image search technique to check the authenticity of videos and images. This technique uses the geolocation cues to locate the exact location where the image or video was taken. This technique has become popular among media houses and fact-checking organizations as one of the effective ways of combating the spread of misinformation. Similar studies have been conducted to distinguish credible news from fake by comparing same image in different contexts with varying textual descriptions using reverse image search on Instagram (Aprin, Chounta & Hoppe, 2022). A similar reverse image search called DejaVu has also been used by journalists to detect visual misinformation (Matatov et al., 2022).

Media professionals also described using media literacy as a misinformation mitigation strategy. Research has shown that most African countries still lag especially those countries from the Global North when it comes to media literacy (Cohen et al., 2022; Tully et al., 2020; Tully 2022). By encouraging media literacy in media houses as well as enlightening the public on how to conduct various methods of fact-checking can play a crucial role of fighting misinformation. We also observed that training the public about media literacy and how to be media literate in local language like was the case with Wolof in Senegal is more meaningful.

In response to how the media professionals view fact-checking and media literacy as strategies for combating misinformation, they praised these strategies as effective and should be encouraged as ways of fighting information. However, some also advised caution especially when fact-checking since it can easily be used a tool for media gagging. Hence fact-checking should be a multistakeholder process that does not infringe on peoples' freedom of speech even as it helps mitigate the spread of misinformation (Ardèvol-Abreu et al., 2020). Media literacy, on the other hand, was viewed as an effective way to combat misinformation.

As one of the Kenyan fact-checker lamented, in this era when the spread of misinformation has become rampart, there is no single approach that can be used to fight misinformation. A hybrid of both fact-checking and media literacy can work even better together so that media content consumers consume content critically as well as learn how to carryout out various fact-checking techniques (KE15). Empirical studies have also shown that combining media literacy and fact-checking as strategies for fighting misinformation works better than using each individually (Çömlekçi, 2022; Vraga et al., 2020).

Scholars have argued that fact-checking is a form of media literacy especially if fact-checks provides resources for the audience to engage in their own fact-checking processes or include media literacy information in them. Similar sentiments were shared by Kuś and Barczyszyn-Madziarz (2020) who observed in their study of fact-checking in Poland that fact-checking initiative also had an educational dimension that promoted media literacy. The argument is similar to our findings where we observed that fact-checking was a form of media literacy since both media professionals and content consumers were trained in how to conduct fact-checking. This training is part of media literacy.

Even though both media professionals and fact-checkers expressed satisfaction with fact-checking and media literacy as effective ways of mitigating the spread of misinformation, they also expressed several challenges that they face on the job. One of the challenges is the unwillingness of some government officials to cooperate when information is requested from them because of fear of being fact-checked as a government. To limit damage in case a government official provided false information, they will be reluctant to respond to fact checkers preferring a wait and see game letting everything take its course. Another challenge that journalists and fact-checkers face is Africa's linguistic and cultural diversity. Even though it has its strengths, these differences are an impediment to fact-checking and media literacy since it is not easy to translate every content into local languages that media consumers who often are media illiterate can understand.

Lastly, Kenya and Senegal, like many other countries, lag when it comes to media literacy education. Unless respective governments implement policies that will make media literacy a critical course taught in schools Africa will continue playing catch up with the rest of the world.

One of the strengths of this paper is the inclusion of Senegal, which is less represented in literature compared to other African-based research that has mostly focused on the Anglophone countries such as Nigeria, South Africa, Egypt, and Kenya. However, this study also has shortcomings. To begin with, it is limited to two African countries. Hence, these findings do not represent the entire African continent. Additionally, the study is limited to self-reports from media professionals. It does not address audience experiences with fact-checking or media literacy. Future research should incorporate more African countries from different regions and different media systems. Besides geographical and cultural representation, future research should

consider linguistic diversity since Africa has more than 2000 languages spoken on the continent. Lastly, future studies should consider the long-term effectiveness of fact-checking and media literacy and audience experience of using both fact-checking tools and media literacy as strategies to mitigate the spread of misinformation.

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Appendix I

Table 1. *Summary of Interviews with Media Professionals in Kenya*

Interviewee	Position	Gender
KE01	Senior Digital Reporter	Female
KE02	Fact-checker	Male
KE03	Creative Producer	Male
KE04	Lecturer & Former Journalist	Male
KE05	Journalist	Male
KE06	Journalist	Male
KE07	University Professor	Male
KE08	Sports Journalist	Male
KE09	Health Reporter	Female
KE10	Former News Reporter	Male
KE11	Fact-checker	Male
KE12	Journalist & fact-checker	Female
KE13	Health Reporter	Female
KE14	Policymaker	Male
KE15	Fact-checker	Male
KE16	University Professor	Female
KE17	Fact-checker	Female
KE18	Journalist	Male
KE19	Former News Editor	Female
KE22	Academic	Male
KE23	Community Radio Journalist	Male
KE24	Policymaker	Female

Appendix II

Table 2. *Summary of Interviews with Media Professionals in Senegal*

Interviewee	Position	Gender
SN01	Journalist & Policymaker	Male
SN02	Journalist	Male
SN03	University Dean	Male
SN04	Media Advocacy	Male
SN05	Journalist	Male
SN06	Policymaker (government official)	Male
SN07	Journalist & Policymaker (regulatory agency)	Male
SN08	Journalist & fact-checker	Female
SN09	Journalist	Female
SN10	Journalist	Male
SN11	Fact-checker	Male
SN12	Media Specialist (government official)	Male
SN13	Radio journalist	Female
SN14	Journalist	Female
SN16	Journalist	Female
SN17	Journalist	Female
SN18	Communications Director	Male
SN20	Journalist & fact-checker	Male
SN21	Community Radio Journalist	Female
SN22	Policymaker (regulatory agency)	Male