Scrolling with (dis)comfort on AI-generated news: exploring group differences and the role of social media use in Portugal

Navegando con (des)comodidad por las noticias generadas por IA: explorando diferencias entre grupos y la importancia del uso de las redes sociales en Portugal

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ABSTRACT: **Purpose.** The increasing role of artificial intelligence (AI) in news production raises important questions about audience acceptance. This research explores group differences in comfort levels toward news generated by AI and news produced with AI assistance, focusing on the effect of the main news sources. It is hypothesized that using social media as a main gateway for news may influence comfort with AI-generated news due to the users' familiarity with algorithm personalization. **Methodology.** A quantitative analysis was conducted on a representative sample of 2012 Portuguese internet users. Nonparametric tests were applied for group comparisons, and a composite AI Comfort Index was developed to enable parametric testing of interaction effects between awareness of AI and main source of news. **Results and Conclusions.** The analysis identifies higher comfort levels when AI is presented as an assistant rather than the primary generator of the news. The results highlight significant differences among groups based on demographic and trust-related factors. Additionally, significant effects are detected in the comparison between groups with lower and higher levels of AI awareness and between social media and traditional news users. Despite not statistically significant, the interaction effect reveals that where users with higher awareness of AI who relied on social media as their main source of news shows a noticeable increase in comfort with AI-generated news. **Contribution.** These findings underscore the importance of considering the main source of news in discussions of AI acceptance in journalism, particularly as current developments point out that new AI powered resources, namely chatbots, could play an important role in the news distribution.

RESUMEN: Propósito. El creciente papel de la IA en la producción de noticias plantea cuestiones sobre la aceptación de la audiencia. Se exploran diferencias en los niveles de comodidad con noticias generadas por IA y asistidas por IA, considerando el efecto de las fuentes principales de noticias. Se plantea que el uso de redes sociales como principal acceso a las noticias puede influir en la comodidad con la IA debido a la familiaridad con la personalización algorítmica. **Metodología.** Se realizó un análisis cuantitativo con 2012 internautas portugueses. Se aplicaron pruebas no paramétricas para comparaciones de grupo y se creó un índice compuesto de comodidad con la IA para evaluar interacciones entre conocimiento de IA y fuente principal de noticias. **Resultados y conclusiones.** Se observa mayor comodidad cuando la IA actúa como asistente en vez de generadora de noticias. Existen diferencias significativas entre grupos según factores demográficos y confianza. Se identifican efectos en la comparación entre distintos niveles de conocimiento de IA y entre usuarios de redes sociales y de noticias tradicionales. Aunque no estadísticamente significativo, el efecto de interacción muestra que los usuarios con mayor conocimiento de IA que confían en redes sociales como su principal fuente de noticias presentan un aumento en la comodidad con las noticias generadas por IA. **Contribución.** Estos resultados resaltan la relevancia de la fuente principal de noticias en la aceptación de la IA en el periodismo, especialmente ante un entorno mediático cambiante, donde tecnologías como *chatbots* podrían desempeñar un papel clave en la distribución de noticias.

Palabras clave: inteligencia artificial; IA generativa; estudios de audiencia; redes sociales; alfabetización algorítmica; aceptación de la IA; periodismo; consumo de noticias.

1. Introduction

Artificial Intelligence (AI) refers to computer systems designed to simulate human cognitive abilities, such as learning, problem-solving, and decision-making, by utilizing large datasets, statistical models, and computational power to process complex data inputs and adapt or improve over time (De-Lima-Santos & Ceron, 2022; Diakopoulos, 2019). Generative AI is a specific branch of AI, distinguishing itself for its ability to use existing data to create new content, such as text, images, audio, or video, that mimics human creativity and complexity.

Although automated news reporting is not a new phenomenon (Carlson, 2015; Liden, 2017; Túñez-López et al., 2020), traditional AI applications have primarily focused on tasks such as classification, prediction, and decision-making (e.g., recommending news articles). This approach has kept automated news production narrowly limited to specific topics characterized by stable and predictable sentence structures (Dörr, 2016). In contrast, generative AI can produce synthetic outputs that appear novel, including complex news articles, realistic images, and synthetic voices, blurring the distinction between human and machine-generated content. This innovation expands the possibilities for automated content creation in journalism while raising critical questions about authenticity, authorship, and ethics (Mahony & Chen, 2024; Porlezza, 2024).

This article investigates whether public perceptions of the role of artificial intelligence (AI) in news production vary according to sociodemographic characteristics, trust-related attitudes, levels of AI awareness, and main news sources. While Arguedas (2024) offers valuable descriptive insights into public attitudes toward AI in journalism, particularly in relation to sociodemographic variables and general trust in news, our study extends this research through several conceptual and methodological advancements.

First, this research integrates findings in the academic literature concerning the reception of AI-generated content (Clearwall, 2014, Graefe et al., 2016; Jung et al., 2017, Wölker & Powell, 2021, Longoni et al., 2022). Second, rather than treating trust as a unidimensional variable, we disaggregate it into specific components that are particularly salient in news audiences (Gondwe, 2025): transparency, bias, and disinformation.

Third, our study employs statistical techniques to test for differences in comfort levels with AI-generated news (with human oversight) versus news produced by journalists (with AI assistance). By doing so, we aim to identify significant patterns of acceptance or resistance across different population segments in Portugal.

Finally, and crucially, we introduce main news source as a key variable, a factor absent in Arguedas's study. This addition allows us to examine how media consumption habits shape public perceptions of AI in news production. Given that algorithmic systems play a prominent role in users' experiences on social media (Shin 2020; Sadiku et al, 2021; Mohamed et al, 2024), we explore whether reliance on these platforms can result in a higher acceptance of generative AI in news production. Moreover, recognising the importance of technological familiarity in shaping user perceptions, we examine how varying levels of AI awareness influence the comfort with AI-generated news across different primary sources of information: traditional media, websites/apps, and social media.

In the context of this study, comfort is used as a proxy for acceptance of AI in news production. Comfort is conceptualised as a subjective indicator of the relationship between users and technology, encompassing two key dimensions: a sense of dominance or control over the technology, and perceived safety in its use (Silverstone & Hirsch, 1992; Miyazaki et al., 2023; Yi & Choi, 2024).

The three main research questions guiding the study are the following:

- RQ 1: Are there significant differences in comfort levels with AI-generated news compared to journalist-produced news?

- RQ 2: Which factors reveal significant group differences in comfort levels with AI-generated news compared to journalist-produced news?

- RQ3. Does awareness of AI influence comfort levels with AI-generated news based on users' main source of news?

2. Reference framework

2.1. AI and journalism

Technological advancements have historically driven significant changes and adaptations in newsrooms, affecting journalists, the news production process, and the relationship between media organizations and audiences (Pavlik, 2000). As Liden (2017) notes, automated text summarization has been employed since the 1960s, initially for weather forecasts, and later in the 1990s to fields such as sports, medical, and financial reporting. This trend towards automation reached a pivotal moment around 2014, when major news organizations began adopting automated content generation technologies to produce high-volume news in specific areas, such as finance and sports (Túñez-López et al., 2020). These topics were preferred due to their reliance on simple and predictable sentence structures, which facilitate automation (Dörr, 2016).

This shift towards automated news production, although limited to specific topics, was perceived as a transformative development in journalism, leading to new concepts such as automated journalism (Carlson, 2015) or robot journalism (Latar, 2018). These innovations are part of a broader trend around the use of big data in journalism (Lewis & Westlund, 2014), marking what Coddington (2014) refers to as a "quantitative turn."

This transformation shifted journalism from a predominantly intuitive practice to a more data-driven one (López-García, 2022), where online audience metrics became essential for decision-making (Jacome et al., 2021). Simultaneously, the rise of social media platforms accelerated

the integration of data mining techniques and advanced digital tools for news aggregation and content prioritization, particularly influencing the stages of news gathering and distribution (Wu et al., 2019).

Recent advances in artificial intelligence, particularly large language models, are reshaping newsroom operations. Generative AI differs from traditional news automation in its ability to "create entirely new content by correlating the vast amounts of data it is given" (Iascote et al., 2024, p. 876). This shift introduces complex legal and ethical challenges, particularly concerning authorship, as these tools can generate text that moves beyond straightforward factual reporting (Henestosa et al., 2023). As generative AI becomes more prevalent, concerns about bias and misinformation continue to grow (Mahony & Chen, 2024), fueling ongoing debates among scholars and regulators about strategies to mitigate potential harm (Porlezza, 2024). The unique challenges posed by generative AI have underscored the need for dedicated AI strategies within news organizations (Beckett & Yaseen, 2023), leading several newsrooms worldwide to adopt guiding principles to govern their internal AI use (Sánchez-García et al., 2025).

2.2. Audience perceptions of AI-generated content

The discussions about AI are decades old, but recently have intensified. Technological and communicational developments, such as the advancements in datafication, algorithmic power, automation and growing platformization of communication, fostered this attention on the topic and to the possibility of the materialisation of a long-predicted future (Bonini & Tereré, 2024). Public attention on AI at the beginning of the 2010's focused on growing concerns over loss of control, ethics and job displacement but was overall optimistic, particularly in sectors such as health and education (Fast & Horvitz, 2017). More recently, the commoditization of AI in the form of publicly available chatbots exponentially increased public, expert and policy attention, gravitating towards not only the benefits, but also to limitations and associated risks (Baldassare et al., 2024).

The economic impacts of AI development have long influenced the discussion on the topic. More recently, public opinion has become more polarised due to the newly perceived economic effects, namely the possibility of job losses among professions which were previously insulated from such effects - such as white-collar or creative workers (Nitin et al., 2024). As a consequence, and despite the fact that AI-acceptance varies across countries, these variations are frequently tied to economic concerns (Gerlich, 2023). Increased political uncertainty and polarisation has also impacted perception and acceptance frameworks due to the potential instrumentalisation of AI for political purposes - LLMs exhibit normative biases that reflect the ideological stance of their creators and language plays a vital role in enabling bias due to origin of training data or the fine-tuning processes (Buyl et al., 2024).

With recent developments in the technology and widespread access to LLMs, research approaches have diversified to include not only the passive perceptions of the public but also the impact of practical and personal experience with AI. Thus, a wide range of different approaches sprouted, emanating from the Technology Acceptance Model (TAM) proposed by Davis (1989) which, at the time, had already established concepts such as Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) as key factors for technology adoption. As such, it has long been argued that exposure to technology increases.

The review of literature on AI-awareness and adoption highlights the overarching range of how acceptability is conceptualized, including motivational factors such as functionality, usefulness, credibility, trust, fairness, ethics and, more broadly, past experience with different technologies. As explored at the beginning of the millennium, technology adoption may rely on factors as wide as optimism, innovativeness or perceived security (Parasuraman, 2000). Similarly, the importance of comfort has also been widely covered before the commoditization of AI, either by

relation to comfort as the individual confidence in the utility of technology and ease of usability (Davis, 1989) or as the perception of human control over technology in general (Parasuraman, 2000). Being subjectively perceived, comfort is less prone to be skewed by the user's perception of what is an appropriate level of submission to machine / delivery of control. Therefore, when measuring comfort, the effect of social desirability bias is mitigated (Krumpal, 2013).

Several contributions have focused on the issues of engagement, arguing that adoption is closely tied to the engagement with technology (Clerwall, 2014, Graefe et al., 2016, Sohn et al., 2020). This subset of studies may be understood as a subsidiary of older contributions which considered the importance of engagement, attention and exposure to technology as a predictor of acceptance and dominance (Silverstone & Hirsch, 1992), an old assumption that finds confirmation in the age of generative AI (Miyazaki et al., 2023, Yi & Choi, 2024).

Studies on the first experiments with automatization to generate high-volume news identified that users regard the content as descriptive and objective, but also regard it as unengaging (Clerwall, 2014). Graefe et al. (2016) also have a similar effect of perceived AI credibility in parallel with diminished engagement related to news. These findings lead to the acceptance of AI-written news but a recognition of the absence of human engagement elements.

A more recent study by Sohn et al. (2020), concerning AI as a whole suggests that users accept AI products based more on perceived engagement than functionality of usefulness. Sohn et al.'s contribution is particularly relevant as it compares four AI acceptance models (TAM, TPB, UTAUT and VAM) and highlights the efficacy of the VAM - Value-based Adoption Model in identifying enjoyment followed by subjective norms, as strong predictors of AI adoption.

Choung et al. (2022) corroborate by expanding on the TAM by integrating a bidimensional measure of trust: human-like trust (related to AI's anthropomorphic features) and functionality (inducted by reliability and performance). Similarly, Araujo et al. (2020) and Ibrahim et al. (2020) also contributed to the centrality of more utilitarian approaches around the concept of perceived usefulness. Araujo et al. (2020) extends research on algorithmic appreciation - people are concerned about risks but have mixed feelings about fairness and usefulness. Ibrahim et al. (2020) goes further by extending the TAM to include psychological traits. By splitting users by emotional traits, the author identifies four clusters (early adopters, early majority, late majority and laggards) concluding that people who have an AI-growth mindset are more likely to adopt AI and perceived usefulness is key to this process.

A parallel subset of studies also focuses on utilitarianism but from the perspective of objective experience rather than perceived usefulness. Yi & Shoi (2024) explore the role of expectations and the positiveness of AI and ICT experiences as a driver for acceptance, an approach which is particularly useful if read in conjunction with Shin et al. (2022) which argues for AI being perceived as an heuristic resource. Their concept of Algorithmic Experience (AX) frames AI adoption and trust as strongly tied to transparency and fairness. Later, the same author would develop on the importance of transparency, explainability and accountability as pillars of individual perception within a literacy-driven analysis: higher literacy leads to higher trust in AI news while low literacy individuals are more likely to question its credibility (Shin, 2022).

A substantial subset of contributions deals with issues of authorship, i.e. the clear identification of AI / hybrid / human content and the attributed legitimacy of human and AI as authors. Barroleta & Sandoval-Martín (2024), Graefe & Bohlken (2020) and Tandoc et al. (2020) all point to neutral results, with no significant differences in perceived credibility being noticed between human, AI or hybrid content. However, Barroleta & Sandoval-Martín (2024) do highlight that AI authorship is regarded as more credible and human-written news as more vivid and engaging. Graefe & Bohlken (2020) find that human content is seen as higher quality and Tandoc et al. (2020) focus specifically on the issue of objectivity to state that AI news are perceived as more credible when LLMs produce objective outputs, although these refer to technological capabilities pre-AI chatbots.

Jia & Johnson (2021) cross authorship with ideology, finding that people prefer news that align with their views regardless of authorship, but if AI news focused on controversial topics are often flagged as less credible. Lermann Henestrosa & Kimmerle (2024) state the perception of diminished credibility in AI compared to humans, due to reduced dimensions of anthropomorphism and intelligence. However, this perception may be nuanced because regular people do tend to differentiate between tasks, placing more trust in algorithms than humans when it comes to quantitative tasks (Logg et al., 2019).

Credibility remains a key vector for algorithm and AI trustworthiness, which is a particularly important topic in journalism and news. Heidelberg et al (2022) and Longoni et al. (2022) underscore the importance of transparency when it comes to production processes and authorship, and Jung et al. (2017) find that AI content is becoming more accepted than expected, even among journalists, a trend also noted by Wölker & Powell (2021) in stating that AI news is becoming more accepted with exceptions for specific news topics. A recent study from Gondwe (2025) revealed that audiences tend to exhibit a neutral stance regarding their trust in AI-generated news. However, as demonstrated by the BBC & IPSOS study (2024), there are clear boundaries in public acceptance of AI. Audiences tend to feel more comfortable when AI tools are used for inspiration, data reporting, or technical production processes. In contrast, they express greater discomfort when AI is employed to autonomously generate content or replace human creativity and empathy.

Parallel to all these approaches, it remains evident that demographics and literacy profiles matter (Arguedas, 2024; Gondwe, 2025). Age retains considerable importance in AI acceptance studies, particularly due to the enthusiasm among younger users (Jang et al., 2022) and gender introduces unique variability into analysis with, for example, gender-specific challenges being identified - women reveal more anxiety about the technology but also extract greater enjoyment from AI tools (Zhang et al., 2023). These variables tend to be very relevant when it comes to the crystallization of literacy profiles among social groups (Shin, 2022).

2.3. The role of social media use in AI acceptance

From a conceptual perspective, a social media platform can be broadly defined as "a group of internet-based applications that build on the ideological and technological foundations of Web 2.0 and that allow the creation and exchange of user-generated content" (Kaplan & Haenlein, 2010, p.61). These platforms are increasingly being used as sources of information, with this trend being particularly relevant and noticeable among younger people (Newman et al., 2024).

Social media have long integrated AI technologies into their various recommendation algorithms. Machine learning and natural language models are employed to analyze users' behavior, preferences and interests and recommend content specifically tailored to them (Mohamed et al., 2024). Previous research has highlighted the capabilities of these technologies in terms of data processing, pattern formation and making overall reliable and accurate predictions (Taherdoost, 2023). Platforms utilize these algorithms to recommend follow requests and content, target advertising and even create dedicated areas on their platform, such as Instagram's Explore page (Sadiku et al., 2021).

Overall, algorithms are of fundamental importance for the aggregation and distribution of content in social media and for analyzing and processing users' consumption habits (Aggarwai & Singhai, 2024). In addition, they play an important role in increasing content relevance and user engagement, leading to more interactions and an increase in content shareability (Shin 2020; Mohamed et al., 2024). However, as users mainly interact with personalized content based on their personal or community preferences (Spohr, 2017), algorithms also raise problematic issues.

In general, social media algorithms are designed to retain users' attention on the platform by recommending personalized content. To achieve this, they may promote sensational content or even disinformation, as such content is inflammatory and can spread quickly across the network (Vosoughi et al., 2018). Consuming this type of content, in turn, can lead individuals to adopt extreme positions and contribute to the formation of echo chambers and filter bubbles (Saurwein & Spencer-Smith, 2021). Furthermore, studies suggest that algorithms often exhibit biases against minorities (Noble, 2018), largely due to the homogeneity of the data used to train them (Borg et al., 2024). These issues are further exacerbated by the lack of transparency surrounding how recommendation algorithms function, often driven by social media providers commercial interests (Pasquale, 2015).

Nevertheless, it is clear that algorithms, which play an important role in shaping what users see on social media, also play a role in shaping people's various perceptions of the world around them and themselves (Bhandari & Bimo, 2022). In this sense, algorithmic literacy (see e.g. Bruns, 2019) is becoming increasingly important to ensure that users possess the necessary skills and knowledge to utilize social media platforms safely and sustainably. Moreover, it is also important to keep in mind that social media algorithms function based on users previous activities and can be very much influenced by how one chooses to use a platform. As Merten (2021) mentions, "acts of personal news curation on social media have the potential to balance, counteract, or complement other mechanisms of content curation such as algorithmic filtering or social curation" (p.1019). Therefore, it is important to recognize the influence of human activity when discussing social media algorithms.

When it comes to how people perceive algorithms in social media platforms, opinions tend to be mixed. Some appreciate the relevance and pertinence of personalized contents, while others express concerns about bias and manipulation (Mohamed et al., 2024). Interestingly, these doubts are also widespread among younger people, even though they utilize social media more and consume more algorithmically curated content. Swart (2021) emphasizes that young people are somewhat "hesitant" towards algorithmically curated news and still tend to prefer editorially curated news over algorithmically curated news. As Couraceiro & Paisana (2024) mention, this is a trend that has shifted in the last decade. In 2016, young people generally reported having a more positive opinion of algorithmically curated news than journalistically curated news. In 2023, the opposite is observed, with younger people having a greater acceptance of journalistically curated news compared to news based on their online past consumption. In fact, the authors highlight that, currently, younger people in the 18-24 age group are particularly concerned about personalized news, especially when it comes to the diversity of opinion in these contents.

Since algorithms, which as we have seen are largely based on AI technologies, play such an important role in the daily activities of users on social media, the question arises as to whether the usage of these platforms can influence general perspectives and attitudes towardsAI in a broader sense.

According to Li & Zheng (2022), there is a fundamental gap in the literature pertaining to how social media influences attitudes towards AI. To address this gap, the authors conducted a study to understand the mediating function of users' perceived AI fairness and threat in relation to three different AI technologies. They conclude that the use of social media has indeed indirectly led to more positive attitudes towards AI, through an increase in the perceived fairness of AI and a decrease in perceived threat. In another study, Cui & Wu (2019) approached the relationship between media use and individuals' perception of risks, benefits and policy support for AI in China. Overall, neither traditional media nor social media predicted individuals' perceptions of AI risks. However, both perceptions of benefits and policy support were positively predicted by the usage of the social media platform WeChat and negatively predicted by the usage of newspapers. Interestingly, television also positively predicted perceptions of benefits and support for policies related to AI technologies.

Because AI can be considered an umbrella term (Sadiku et al., 2021), that encompasses various types of technologies, people's trust in different types of AI may also vary (Glikson & Woolley, 2020 apud Li & Zheng, 2022). Given the importance of considering the specificities of different AI technologies we now turn to generative AI, which is the focus of our current study, by looking at what previous research can tell us about social media usage and perceptions surrounding this specific type of AI technology.

From a general standpoint, studies analyzing publications on social media related to generative AI technologies show an overall positive sentiment and perception among users (Hacke et al., 2022; Leiter et al., 2023; Miyazaki et al., 2023 Qi et al., 2023). For example, Hacke et al. (2022) analyzed more than ten thousand tweets from early ChatGPT users and concluded that most of these users expressed "overwhelmingly positive sentiments" on various topics and that only a select number of users indicated concerns related to the unlawful use of ChatGPT. In addition, the authors point to an interest in the adoption of ChatGPT in various professional fields.

Miyazaki et al. (2023) examined perceptions about generative AI by analyzing three million Twitter posts and also came to the conclusion that users are predominantly positive about generative AI, but also that there is a strong interest in these technologies among most professional groups, not just IT professionals. The authors conclude that ChatGPT in particular was very important in making the general public feel more comfortable with AI technologies overall. On a complementary approach, Leiter et al. (2023) analyzed more than three hundred thousand tweets in conjunction with 150 scientific articles and concluded that ChatGPT is seen as a high-quality tool, "(…) with positive sentiment and emotions of joy dominating in social media" (p.1). However, users are less positive about using the technology in languages other than English (Leiter et al., 2023)

In addition to Twitter, Qi et al. (2023) investigated how Reddit users perceive the rise of generative AI technologies by collecting over thirty thousand comments in 388 subreddits. The authors mention that overall, users are convinced of the positive role of AI in society, especially when the technology is used as a tool to support decision-making processes. Nevertheless, some users also emphasized a lack of trust in AI and concerns about the future of AI development. The authors also note differences between tech and non-tech subreddits in terms of the topics discussed, as well as the fact that tech-related subreddits are more polarized in their sentiment towards AI.

Finally, we believe that it is important to emphasize that exposure to AI seems to be associated with a more positive sentiment toward these technologies (Miyazaki et al., 2023). Furthermore, Wang (2023) emphasizes that the acceptance of algorithms in social media contributes to a more positive perception of the use of AI in moderating content on these platforms. In this sense, the question arises as to whether social media users are also more inclined to have positive feelings and accept AI due to their high exposure to algorithms based on AI technologies. This is particularly interesting with regard to generative AI, which, as we have seen, is predominantly discussed positively on social media platforms.

3. Methodology

This study adopts a quantitative approach to investigate whether perceptions of AI-generated news and journalist-produced news differ across several factors, including sociodemographic characteristics, trust-related attitudes, awareness of AI, and main source of news. The primary objective is to identify group differences in comfort levels with the role of AI in news, focusing on news generated by AI (with human oversight) and news produced by journalists (with AI assistance).

In addition to these group comparisons, the study explores potential interaction effects, questioning whether the relationship between awareness of AI and comfort with AI-generated

news is influenced by news consumption habits, specifically examining differences between users of traditional media, websites/apps, and social media.

Although nonparametric tests were used for group comparisons due to the ordinal nature of the data, the creation of a composite AI Comfort Index (as explained below) allowed for the use of parametric tests in the exploration of interaction effects between awareness of AI and main source of news preferences.

The original data was collected through YouGov's administration of an online questionnaire to a panel of Portuguese respondents, resulting in a representative sample of 2012 individuals. The survey was conducted between January and February 2024 as part of the Digital News Report (DNR) from the Reuters Institute for the Study of Journalism, which also includes a Portuguese edition.

This article presents a secondary analysis of the Portuguese dataset. The analysis focuses on specific aspects, particularly the role of the main source of news for AI acceptance, that are not addressed in the publicly available international DNR report (Newman, 2024) or its Portuguese edition (Cardoso, Paisana & Pinto-Martinho, 2024). Moreover, it adopts a theoretical and statistical framework that extends beyond the descriptive summaries typically provided in the DNR publications.

The online DNR questionnaire had a section regarding AI with the following preliminary text: "The next few questions will focus on the topic of artificial intelligence (AI) in journalism. By AI, we are referring to computer systems taught to mimic intelligent human behaviours."

The two main dependent variables in this study were derived from the question: "In general, how comfortable or uncomfortable are you with using news produced in each of the following ways?" The question presented two scenarios:

1. Mostly by artificial intelligence (AI) with some human oversight

2. Mostly by a human journalist with some help from artificial intelligence (AI)

Responses were collected on a five-point Likert scale ranging from 1 ("very comfortable") to 5 ("very uncomfortable"). To ensure consistency in interpretation, the responses were reverse-coded, with higher values indicating greater comfort (excluding respondents who selected "don't know").

The five-point Likert scale measures comfort with AI-generated or human-produced news content, capturing respondents' emotional or psychological response rather than a direct evaluation of acceptability. As discussed in literature review, acceptability constitutes a broader judgment encompassing, among other factors, perceived usefulness, credibility, familiarity, and trustworthiness, with emotional comfort functioning as one of several contributing factors. Comfort, as an indicator of emotional ease or unease when engaging with content, represents an affective response that influences subsequent cognitive evaluations. This emotional response is shaped by factors that are likewise integral to acceptability, such as trust and perceived familiarity. Consequently, we identify theoretically grounded justification for employing comfort with AI-generated content as an indirect measure of acceptability.

Given that the two dependent variables were measured using single questions on a five-point Likert scale, the study employed nonparametric tests for group comparisons. Nonparametric tests are appropriate for ordinal data, as they do not assume normality or equal variances and provide a conservative and robust method for detecting significant differences in ranked data. In addition to descriptive statistics, the analysis applied Mann-Whitney U tests for comparisons between two independent groups (e.g., low vs. high awareness of AI) and Kruskal-Wallis tests for comparisons between three or more groups (applicable for main source of news).

To facilitate group comparisons, independent variables were recoded into theoretically grounded binary categories. This dichotomization process involved categorizing responses into "higher" and "lower" groups, thereby enabling pairwise comparisons between distinct groups. The decision was supported by the unequal distribution of responses in the original data, as responses tended to cluster around the higher categories. Moreover, this approach reflects daily communication practices that shape collective social representations of reality (e.g., lower vs. higher trust in news helps distinguish generally skeptical individuals from those who are more trusting). Although dichotomizing continuous or ordinal variables has been criticized for reducing variability (Fitzsimons, 2008), it remains a pragmatic and scientifically valid approach, particularly in studies aimed at exploring meaningful group differences and communicating effective findings (DeCoster et al., 2009; Iacobucci et al., 2015). The recoding of independent variables was applied differently depending on the nature of each variable, as shown in Table 1.

Table 1. Original and recoded categories for independent variables

Variable	Original Categories	Recoded Categories	N
Gender	Binary (male and female)	- Male	939
		- Female	1073
Age	Continuous	- Older (35 +)	449
		- Younger (≤ 35)	1563
Education	3 categories	- Higher Education (University degree)	491
		- Lower Education (secondary school or lower)	1521
Trust in News	5-point Likert scale (from strongly disagree to strongly agree)	- Higher (> 3)	1128
		- Lower (≤ 3)	884
Importance of Transparency*	5-point Likert scale (from very unimportant to very important)	- Higher (> 3)	360
		- Lower (≤ 3)	1585
Importance of Not Being Biased*	5-point Likert scale (from very unimportant to very important)	- Higher (> 3)	1223
		- Lower (≤ 3)	684
Concern About Disinformation	5-point Likert scale (from strongly disagree to strongly agree)	- Higher (> 3)	1457
		- Lower (≤ 3)	555
AI Awareness*	4-point Likert scale (nothing at all; a small amount; a moderate amount; a large amount)	- Higher (3 and 4)	988
		- Lower (1 and 2)	901
Main News Source	11 categories (television news bulletins or programmes; 24 hour news television channels; radio news bulletins or programmes; printed newspapers; printed magazines; websites/apps of newspapers; websites/apps of news magazines; websites/apps of TV and radio companies; websites/apps of other news outlets; social media such as Facebook, X, YouTube; blogs)	- Traditional media	1207
		- Websites/Apps	417
		- Social media	299

Source: Own elaboration.
Note: For the variables marked with an asterisk (*) the responses were reverse coded to ensure that lower values represent lower categories and higher values represent higher categories.

To explore potential interaction effects an AI Comfort Index was created, based on responses to a follow-up question regarding comfort with AI-generated news: "In general, how comfortable or uncomfortable are you with using news about each of the following topics produced mostly by artificial intelligence (AI) with some human oversight?" Respondents rated their comfort levels on the same five-point Likert scale across the following news topics: "politics", "crime", "business", "sports", "celebrity or entertainment news", "arts and culture", "science and technology", "local news".

The AI Comfort Index was calculated by averaging responses across these eight items. The index demonstrated high internal consistency, with a Cronbach's Alpha of 0.90, indicating reliability. Although Likert scales are ordinal in nature, it is a common practice in social sciences to treat composite scores from multiple Likert items as approximately interval-level data when used in statistical analyses (Norman, 2010; Carifio & Perla, 2008). Given the large sample size, the distribution of the data approximates normality, in line with the Central Limit Theorem. Furthermore, the assumption of homogeneity of variances across groups was tested and confirmed using Levene's Test, which supports the appropriateness of using parametric tests. Consequently, the resulting index was treated as a continuous variable in the subsequent analyses.

The AI Comfort Index was used to explore interaction effects between awareness of AI and the main source of news using a Two-Way ANOVA. This analysis aimed to determine whether the impact of awareness of AI on comfort with AI-generated news varies depending on news source preferences.

Finally, to visualize potential interaction effects, a graph of estimated marginal means was generated. This graph illustrates how the combination of awareness of AI and the main source of news jointly affects perceptions of AI-generated news, offering a visual representation of the relationship between these factors.

4. Analysis of the results

4.1. Group differences in AI-generated vs AI-assisted news

Figure 1 presents the distribution of individuals' comfort levels with news generated mostly by AI (with human oversight) versus news produced by journalists (with AI assistance). These results point to a general preference for human-produced news, as higher levels of comfort ("somewhat comfortable" and "very comfortable") are more frequently associated with journalist-produced news.

To assess whether these observed differences are statistically significant, a Wilcoxon Signed-Rank Test was conducted. The results indicate a statistically significant difference (Z = -19.218, p < 0.001), with 772 respondents reporting greater comfort with journalist-produced news, 168 respondents expressing higher comfort with AI-generated news, and 894 respondents indicating no difference in comfort levels. These findings suggest that generally individuals are more comfortable with AI-assisted over AI-generated news.

Figure 1. Proportion of individuals comfortable with news made mostly by AI vs Journalists
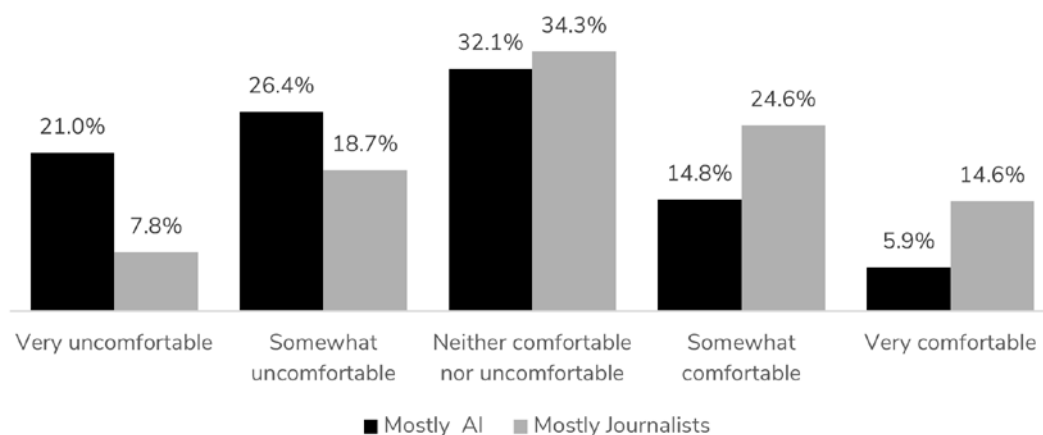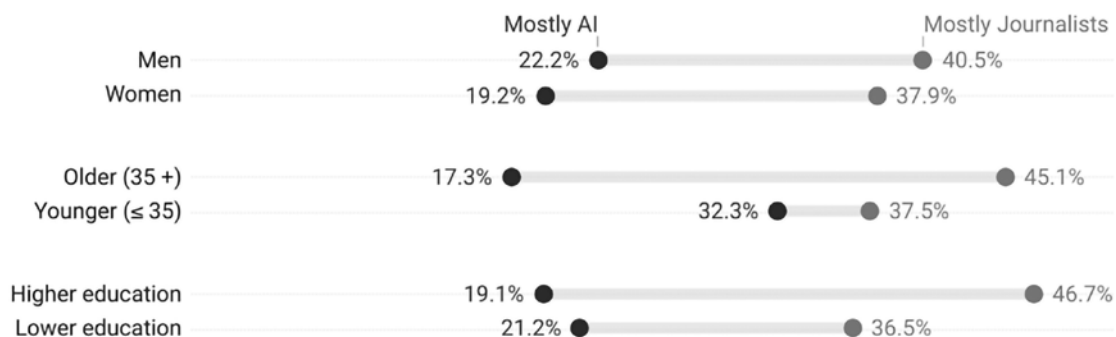

Source: Own elaboration based on 2024 data from the Reuters Institute Digital News Report.

The above results reveal a clear overall tendency: individuals are nearly twice as comfortable with news produced primarily by journalists with AI assistance (39.2%) as they are with AI-generated news with human oversight (20.6%). This pattern is consistent across all demographic groups.

Within-group differences, as presented in Figure 2, reveal important nuances. Gender differences are visible, with men showing slightly greater comfort than women with both AI-generated and journalist-produced news. Age differences are more pronounced, as younger individuals report the highest comfort with AI-generated news (32.3%), a level close to their comfort with journalist-produced news (37.5%). In contrast, older individuals display a strong preference for news made by journalists (45.1%) and express the greatest skepticism toward news made primarily by AI (17.3%). Education also plays a role, with those holding higher education degrees reporting the strongest preference for journalist-produced news (46.7%).

While these descriptive percentages highlight the proportion of individuals who reported being somewhat or very comfortable with news made mostly by AI or by journalists, they do not account for the full range of responses on the five-point Likert scale. To test whether comfort levels differed significantly within these demographic groups, we conducted Mann-Whitney U tests (see appendix). The results confirm that men ($Z = -3.60$, $p < 0.001$), younger individuals ($Z = -5.43$, $p < 0.001$), and those with lower education ($Z = -3.33$, $p < 0.001$) register significantly greater comfort with AI-generated news compared to their counterparts, with age showing the most pronounced difference. In contrast, comfort with journalist-produced news does not differ significantly by gender or age ($p > 0.05$), but individuals with higher education are significantly more comfortable with journalist-produced news than those with lower education ($Z = -2.67$, $p = 0.008$).

Figure 2. Proportion of individuals comfortable with news made mostly by AI vs Journalists across demographic groups

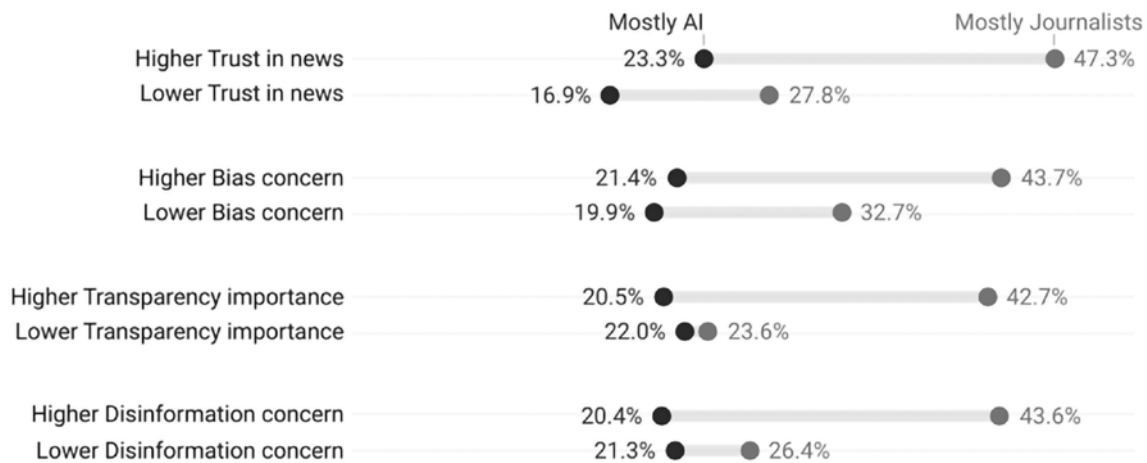Source: own elaboration based on 2024 data from the Reuters Institute Digital News Report.
Note: the percentages are the result of aggregating the categories 4 - "Somewhat comfortable" and 5 - "Very comfortable", based on a likert scale of comfort from 1 to 5.

Trust-related factors shape individual' comfort with AI-generated and journalist-produced news, as shown in Figure 3. Individuals who have higher trust in news exhibit the highest comfort with journalist-produced news (47.3%), while those with lower trust express low comfort with both types of news, notably showing the lower comfort with AI-generated news (16.9%). However, according to the Mann-Whitney U tests (see appendix) trust in news significantly influences only comfort with news made by journalists ($Z = -7.20$, $p < 0.001$), while no significant difference was found for AI-generated news ($p > 0.05$).

Bias concern also differentiates comfort levels. Although differences in comfort with AI-generated news appear to be small, they are significantly different when comparing the full range of responses on the Likert scale ($Z = -2.66$, $p = 0.008$). A clearer divide emerges for journalist-produced news, where individuals more concerned about bias indicate greater comfort (43.7%) than those less concerned (32.7%), with a statistically significant difference ($Z = -3.04$, $p = 0.002$).

Transparency and disinformation concerns show a stronger effect. Individuals who are less concerned with transparency and disinformation report similar comfort levels with both AI-generated and journalist-produced news (22% to 23,6% and 21.3% to 26.4%, respectively). Moreover, those who highly value transparency or are more concerned about disinformation register significantly lower comfort with AI-generated news (Z = -6.30, p < 0.001 and Z = -6.35, p < 0.001, respectively) but greater comfort with journalist-produced news (Z = -3.38, p < 0.001 and Z = -3.49, p < 0.001, respectively).

Figure 3. Proportion of individuals comfortable with news made mostly by AI vs Journalists across trust-related groups
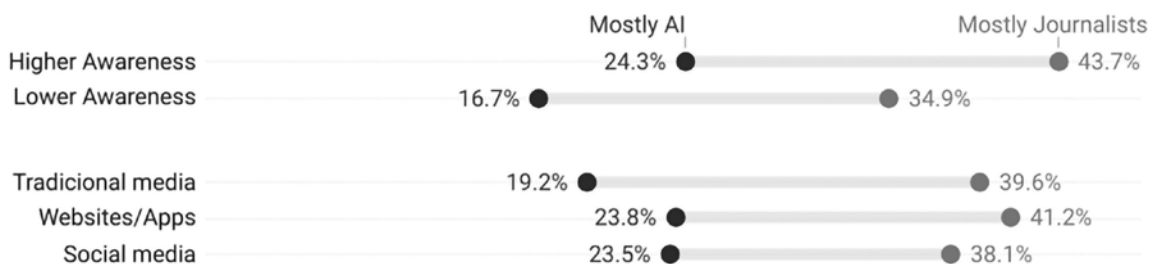

Source: own elaboration based on 2024 data from the Reuters Institute Digital News Report.
Note: the percentages are the result of aggregating the categories 4 – "Somewhat comfortable" and 5 – "Very comfortable", based on a likert scale of comfort from 1 to 5.

As illustrated in Figure 4, comfort with AI-generated and journalist-produced news is influenced by awareness of AI and the main source of news. Individuals with higher awareness express greater comfort with AI-generated news (24.3%) compared to those with lower awareness (16.7%), and also more comfort with journalist-produced news (43.7% vs 34,9%). Mann-Whitney U tests (see appendix) confirm that higher awareness of AI is significantly associated with greater comfort with AI-generated news (Z = -3.42, p < 0.001) and journalist-produced news (Z = -3.14, p = 0.002).

Figure 4. Proportion of individuals comfortable with news made mostly by AI vs Journalists across levels of awareness of AI and different main sources of news

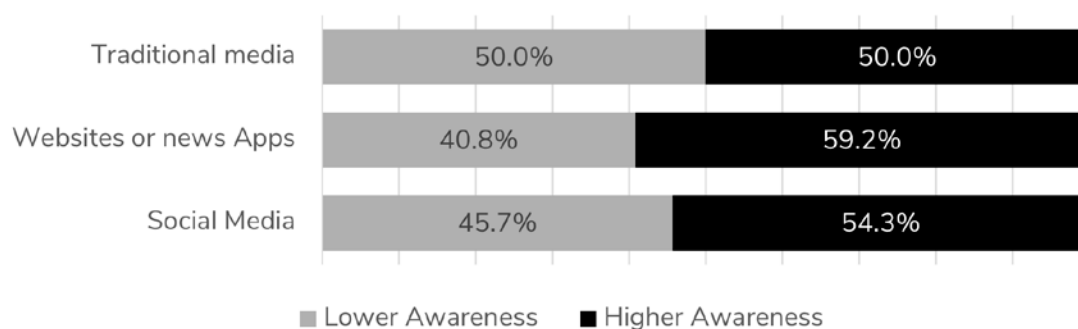Source: own elaboration based on 2024 data from the Reuters Institute Digital News Report.
Note: the percentages are the result of aggregating the categories 4 – "Somewhat comfortable" and 5 – "Very comfortable", based on a likert scale of comfort from 1 to 5.

The main source of news is also a relevant component, though differences in comfort with AI-generated news are more pronounced than for journalist-produced news. Individuals who primarily rely on traditional media report the lowest comfort with AI-generated news (19.2%), while those who consume news via websites/apps (23.8%) and social media (23.5%) exhibit higher comfort. Kruskal-Wallis tests (see appendix) confirm a statistically significant difference in comfort with AI-generated news across news source groups (H(2) = 16.10, p < 0.001), with social media users ranking the most comfortable with AI-generated news and traditional media users the least comfortable. In contrast, comfort with journalist-produced news does not significantly differ across news sources (H(2) = 1.09, p = 0.579), suggesting that regardless of their primary source of news consumption, individuals maintain similar levels of comfort with news content mostly made by journalists.

4.2. Interaction effects between awareness of AI and main source of news on the comfort with AI-generated news

Before analyzing the interaction effects between awareness of AI and the main source of news on comfort with AI-generated news, it is important to examine how AI awareness is distributed across different news sources. As shown in Figure 5, awareness of AI is evenly split among traditional media users (50% high, 50% low), while it is higher among those who rely on social media (54.3%) and websites or news apps (59.2%). This suggests that individuals who primarily consume news through digital platforms tend to have greater awareness of AI compared to traditional media users.

Figure 5. Distribution of awareness of AI (lower vs. higher)
across different main sources of news

Source: own elaboration based on 2024 data from the Reuters Institute Digital News Report.

To examine whether awareness of AI and the main source of news interact in influencing comfort with AI-generated news, a Two-Way ANOVA was conducted (Table 2).

The Two-Way ANOVA results indicate that both awareness of AI (F(1, 1750) = 5.166, p = 0.023) and main source of news (F(2, 1750) = 3.455, p = 0.032) have significant main effects on comfort with AI-generated news. This suggests that individuals' comfort levels differ based on both their AI awareness and their primary news consumption source. However, the interaction effect between those two independent variables was not significant (F(2, 1750) = 1.493, p = 0.225), indicating that the effect of awareness of AI on comfort with AI-generated news does not significantly vary across different news source groups. This suggests that regardless of their primary news source, individuals with higher awareness of AI consistently indicate greater comfort with AI-generated news compared to those with lower awareness of AI.

Table 2. Two-Way ANOVA results for awareness of AI and main source of news on comfort with AI-generated news (AI Comfort Index)

	F	df	p-value
AI Awareness	5.166	1	0.023
Main News Source	3.455	2	0.032
AI Awareness × Main News Source (Interaction)	1.493	2	0.225

Source: own elaboration.

Although the Two-Way ANOVA did not reveal a significant interaction effect between awareness of AI and the main source of news on comfort with AI-generated news, the graph of estimated marginal means (Figure 6) indicates distinct trends across news source groups. The overall sample mean of 2.79 (represented by the horizontal reference line), on the AI Comfort Index (from 1 to 5), provides a baseline for comparison, allowing for a clearer interpretation of deviations across groups.

The observed trends suggest that the relationship between awareness of AI and comfort with AI-generated news varies slightly depending on the primary source of news consumption. Social media users (cyan line) exhibit the largest increase in comfort as awareness of AI rises, with mean comfort levels increasing from 2.72 among those with lower AI awareness to 2.99 among those with higher AI awareness. Traditional media users (blue line) also show a positive association, though their comfort levels remain below the overall sample mean, rising from 2.67 (lower AI awareness) to 2.77 (higher AI awareness). Website/app users (red line) maintain a stable level of comfort at approximately 2.84, regardless of users' AI awareness, as indicated by the flat trend.

Figure 6. Estimated marginal means of comfort with AI-generated news (AI Comfort Index) by awareness of AI and main source of news
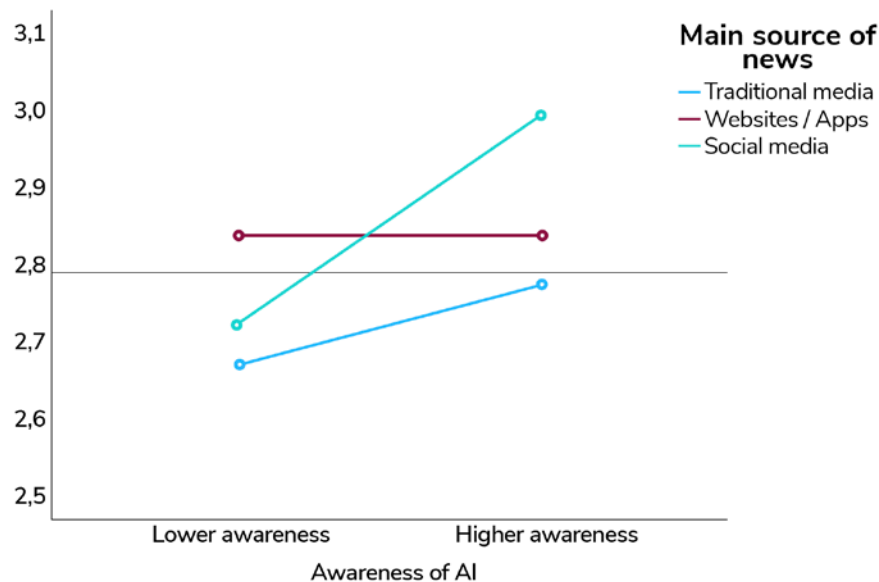
Source: Own elaboration.
Note: The estimated marginal means presented in this graph range from 2.67 to 2.99, with no statistically significant differences between groups. The y-axis is scaled from 2.5 to 3.1 to enhance readability and better illustrate variations in the estimated means of the AI Comfort Index (ranging from 1 to 5).

5. Discussion

Our primary finding reveals a statistically significant difference in comfort levels between AI-generated news and AI-assisted news among the Portuguese population, with an overall preference for the latter. This trend is consistently observed across all groups illustrated in the figures, and follows international trends previously identified by Arguedas (2024) or BBC and IPSOS (2024). Notably, younger individuals (under 35), despite expressing an overall preference for news produced by journalists, exhibit greater comfort with AI-generated news compared to all other groups under analysis. In this regard, the group of people with lower levels of awareness report feeling less comfortable with AI-generated news. On the other hand, those with a higher level of trust in news and a higher level of education indicate higher levels of comfort with news made mostly by journalists. These results aligned with those of Arguedas (2024).

Two other groups stand out in this balance of preferences between news made mostly by AI and news made mostly by journalists: individuals who place less importance on transparency and those who are less concerned about disinformation. For these specific groups, comfort with AI-assisted news (where human initiative is more present), is nearly as low as their comfort with AI-generated news.

Regarding demographics, our research shows that age is a strong predictor of comfort when interacting with AI, with younger individuals reporting higher levels of comfort when interacting with AI-generated news than older individuals. This is in accordance with previous research showing that age is an essential factor in the acceptance of AI and algorithmic news, with younger people displaying higher levels of acceptance (Jang et al., 2022; Arguedas, 2024). It should be noted that the propensity for young people to adhere to technology more rapidly has long been tested and proven (Tucker, 2011, Vogel, 2019) as younger users tend to set the standards for technology adoption which later spread to older age groups.

Our results also show that the older group of individuals (over 35) have a significantly higher comfort level with news created by journalists compared to the younger group (under 35). However, younger people, similar to all other demographic groups, still have a higher level of comfort with news created by journalists compared to AI-generated news.

This preference for the "manual" input of journalists was also mentioned by Swart (2021) and Couraceiro & Paisana (2024), who points out that young people tend to prefer editorially curated news to algorithmically curated news. In this sense, it could be argued that while young people are more familiar with personalized digital news environments, where AI technologies are more present, overall, they tend to prefer news that are created and curated in a more "traditional" way. Nevertheless, the greater acceptance of AI-generated news by young people is understandable, as they tend to be more open to innovation and technology.

As for gender, while the differences are less pronounced than for age, our results show that men seem to be more comfortable with AI-generated news than women. In this sense, our results appear to be in line with those of Zhang et al. (2023), who emphasise that while women enjoy AI tools more, they also tend to feel more anxious about AI and are therefore less comfortable with it. Overall, we found no statistically significant differences in news produced by journalists, suggesting that men and women feel similar levels of comfort with this type of content. Furthermore, our findings suggest that individuals with lower levels of education also have higher levels of comfort with AI-generated news, while individuals with higher levels of education have higher levels of comfort with journalist produced news, compared to those with lower levels of education. In this sense, although knowledge is a predictor of comfort when dealing with AI (Jeng et al., 2022), this does not necessarily mean that people who possess a higher level of education automatically have a higher level of comfort with AI-generated news.

In terms of trust in news, our results indicate that it only influences differences in comfort with news made by journalists, with no statistically significant differences regarding AI-generated news.

Regarding bias, which is highly associated with technologies such as AI algorithms (Buyl et al., 2024, Borg et al., 2024) and has been identified as a source of concern for users (Mohamed et al., 2024), it also plays a significant role in terms of comfort with AI-generated news and journalist news. Our results suggest that people who are highly concerned about bias are also much more comfortable with journalist produced news than people who are less concerned. Interestingly, these same people who are very concerned about bias are also slightly more comfortable with AI-generated news, although the differences are relatively small.

Concerning transparency and disinformation, we found that those who are less concerned about these questions show a similar level of comfort with AI-generated and journalist generated news. However, those who are more concerned about disinformation and place more value on transparency show lower levels of comfort with AI-generated news and higher levels of comfort with journalist-produced news. While overall acceptance of AI content is increasing (Wölker & Powell, 2021; Jung et al., 2017), our findings suggest that this appears to vary from user to user, with factors such as concern about disinformation and the value of transparency influencing users' comfort with these technologies. In this sense, our findings support the claims of Heidelberg et al. (2022) and Longoni et al. (2022) about the importance of transparency in relation to production processes and authorship.

Results also indicate the importance of AI awareness when it comes to comfort with AI-generated news, with those who have a higher level of awareness feeling more comfortable with this type of content. Interestingly, those with higher levels of awareness also felt more comfortable with journalist-produced news than those with lower levels of awareness. In this sense, our results suggest that awareness of AI increases comfort with both AI-generated news and journalist produced news, indicating increased comfort with news regardless of how they integrate AI technologies.

Our findings show that the main source of news is an important factor regarding comfort with AI-generated news, with those who consume news via websites/apps and social media platforms showing higher levels of comfort than those who use traditional media. Despite this, even if more open to AI-generated news, digital-first audiences still lean toward human-made news. However, our findings also suggest that audiences whose primary news source is digital, such as social media platforms, have a statistically significantly higher level of comfort with AI-generated news.

In the same vein, previous research suggests that social media users have an overall positive attitude and perception towards generative AI (Hacke et al., 2022; Leiter et al., 2023; Miyazaki et al., 2023 Qi et al., 2023) and that the use of social media platforms leads to a more positive attitude towards AI (Li & Zheng, 2022; Cui & Wu, 2019). In fact, Li & Zheng (2022) suggest that this is due to an increase in the perceived fairness of AI and a decrease in the perceived threat (Li & Zheng, 2022).

The interaction effect results indicate that while both awareness of AI and the main source of news independently influence comfort with AI-generated news, their effects do not significantly interact. As mentioned earlier, this suggests that regardless of what respondents choose as their primary news source, those with a higher awareness of AI consistently indicate that they are more comfortable with AI-generated news than those with a lower awareness of AI. Overall, this is consistent with previous research suggesting that greater exposure to AI appears to be associated with generally more positive attitudes towards AI technologies (Miyazaki et al., 2023), and this may well be a more decisive factor than the specific news source used.

Moreover, those who are more knowledgeable about AI seem to be more comfortable with AI-generated news (Jeng et al, 2022). In this sense, factors related to an individual's overall understanding and perception of AI, such as exposure (Miyazaki et al., 2023), familiarity (Yi & Choi, 2024), experience (Shin et al., 2020), knowledge (Jeng et al, 2022), appreciation (Logg et al., 2019) and, as we observed in our study, awareness, appear to be fundamental, even surpassing other behavioral factors, such as the main source of news.

Despite the lack of statistical significance in interaction terms, the relationship between AI awareness and comfort with AI-generated news varies across news source groups. Social media users exhibit the most pronounced increase in comfort as AI awareness rises, while traditional media users also show a positive trend but remain below the overall average comfort level. In contrast, website/app users maintain consistently above-average comfort levels, regardless of AI awareness.

This trend points out that the main source of news may have a small but important role as a mediating factor in the relationship between awareness of AI and comfort with AI-generated news, particularly as future developments shift the focus from mere awareness to a more comprehensive understanding of AI as literacy competency. However, rather than a simple interaction effect, the patterns observed may reflect mutually reinforcing influences. For instance, social media users tend to be younger and have lower levels of formal education, which may shape both their awareness of AI and their comfort with AI-generated news. When individuals in this group become more aware of AI, they may also be more inclined to accept AI-generated news due to their greater exposure to algorithm-driven content. This would indeed be in line with previous studies, such as Wang (2023), which suggest that the general acceptance of algorithms in social media contributes to a more positive perception of the use of AI on these platforms.

6. Conclusions

This research aims to fill a gap left by two subsets of studies, one focused on the predicting factors for acceptability of AI-generated news, the other on the weight of experience with algorithms. The predicament was that an analysis of comfort levels regarding AI-generated news and AI-assisted news production would shed light on how different groups may differ on the acceptance of AI in news.

We have analysed group differences based on demographic variables such as gender, age, education, and trust related variables, such as trust in news, importance of transparency, concern about bias and concern for disinformation. Additionally, we have considered the importance of AI awareness, and particularly the main source for news was also included, this last one to explore differences that the exposure to algorithmic systems might have in AI comfort and acceptance.

In response to the research questions established at the beginning of this research we find, in reply to RQ1 (*Are there significant differences in comfort levels with AI-generated news compared to journalist-produced news?*), that there are significant differences in comfort levels, with the Portuguese population expressing less comfort with AI-generated news compared to news produced by journalists. This preference for news made by journalists (with AI assistance) remains consistent across all studied groups.

In a deeper look into the segmentation of the sample into different groups, which we enquire within RQ2 (*Which factors reveal significant group differences in comfort levels with AI-generated news compared to journalist-produced news?*) We find that notwithstanding the role of sociodemographic variables in determining the comfort and acceptance of AI as a main actor in news production, other factors such as trust, transparency and concern for disinformation are meaningful as well. The issue of age is particularly relevant compared to other factors, as they are the group that exhibit the greatest comfort with AI-generated news, reflecting the tendency to adhere to technology faster. In this regard it is also worth noticing the role of awareness, as those with lower AI awareness are the ones that manifest a lower comfort with AI-generated news.

Exploring the question of main gateways for news contained in RQ3 (*Does AI-awareness influence comfort levels with AI-generated news based on users' main source of news?*), significant differences were found between users of traditional news media and social media, potentially signaling the importance of exposure to algorithms as a relevant factor. However, regardless of the

news source those with higher levels of awareness are consistently more comfortable with AI-generated news. The interaction effect between AI awareness and the main source of news was not statistically significant, but it emerged, nonetheless, as a potential factor influencing comfort levels Specifically, a trend was observed where users with higher awareness of AI who relied on social media as their main source of news showed a noticeable increase in comfort with AI-generated news. In contrast, website/app users showed no variation in comfort ratings based on awareness of AI, while traditional media users consistently reported a lower level of comfort. These findings underscore the importance of considering the main source of news in discussions of AI acceptance in journalism.

We consider that the analytical framework we suggest may be fruitful for comparison studies between different countries or regions. However, we acknowledge that presenting results based on dichotomous group analysis, while useful for communication and interpretation purposes, inevitably simplifies a more complex social reality. In this context, it is important to recognize that working with a secondary dataset limits our analysis to the questions originally asked, thus constraining data availability and scope. Additionally, our study lacks an in-depth exploration of how comfort levels vary depending on the specific topics covered by AI-generated news. As highlighted in the literature review, certain topics tend to be more widely accepted than others. From the Portuguese dataset, we observe that news related to politics and crime evoke the lowest comfort levels regarding AI automation. Therefore, a more nuanced analysis of topic-specific differences remains a valuable avenue for future research.

Future sampling for similar studies may take a deeper look into the characteristics of composite subsamples such as the ones identified in this research (eg. those who are young and proficient social media users). Moreover, we suggest that future studies develop clearer media literacy profiles, differentiating between awareness of AI technologies and varying levels of knowledge about their functioning. These distinctions could offer clearer results of how relying on social media as a primary news source might influence greater acceptance of AI-generated content.

Finally, future research would benefit from incorporating qualitative methodologies to complement the quantitative findings presented here. In particular, focus group discussions or reception experiments could provide a deeper understanding of how different audiences experience AI-generated news.

7. Contributions

Roles	Author 1	Author 2	Author 3
Conceptualization	X		
Formal analysis	X	X	X
Funding acquisition			
Project administration	X		
Investigation	X	X	X
Methodology	X		
Data curation			
Resources			
Software			
Supervision	X		
Validation	X	X	X
Visualization	X		
Writing – original draft	X	X	X
Writing – review and editing	X	X	X

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Appendix

Mann-Whitney U Test results for comfort with news made mostly by AI vs Journalists across demographic groups

Independent Variable	Groups	AI-generated news comfort				Journalist-produced news comfort			
		Median (IQR)	U Statistic	Z	p-value	Median (IQR)	U Statistic	Z	p-value
Gender	Man	3 (1)	385 367.5	-3.60	<0.001 ***	3 (2)	415 861	-1.24	0.214
	Woman	2 (1)				3 (2)			
Age	35 +	2 (1)	241 988	-5.43	<0.001 ***	3 (2)	278 874	-1.57	0.117
	≤ 35	3 (2)				3 (2)			
Education	Higher	2 (1)	312 695	-3.33	<0.001 ***	3 (2)	322 925	-2.67	0.008 **
	Lower	3 (1)				3 (2)			

Mann-Whitney U Test results for comfort with news made mostly by AI vs Journalists across Trust-related groups

Independent Variable	Groups	AI-generated news comfort				Journalist-produced news comfort			
		Median (IQR)	U Statistic	Z	p-value	Median (IQR)	U Statistic	Z	p-value
Trust in news	Higher	3 (1)	408 772.5	-0.49	0.625	3 (1)	339 487.5	-7.20	<0.001 ***
	Lower	3 (1)				3 (2)			
Bias concern	Higher	2 (1)	330 338.5	-2.66	0.008 **	3 (2)	328 870	-3.04	0.002 **
	Lower	3 (1)				3 (2)			
Transparency importance	Higher	2 (1)	170 667.5	-6.30	<0.001 ***	3 (2)	194 170.5	-3.38	<0.001 ***
	Lower	3 (1)				3 (0)			
Disinformation concern	Higher	2 (1)	260 011.5	-6.35	<0.001 ***	3 (2)	291 392	-3.49	<0.001 ***
	Lower	3 (1)				3 (1)			

Mann-Whitney U Test results for comfort with news made mostly by AI vs Journalists across AI Awareness

Independent Variable	Groups	AI-generated news comfort				Journalist-produced news comfort			
		Median (IQR)	U Statistic	Z	p-value	Median (IQR)	U Statistic	Z	p-value
Awareness of AI	Higher	3 (1)	359 540.5	-3.42	<0.001 ***	3 (2)	365 839	-3.14	0.002 **
	Lower	2 (1)				3 (2)			

Kruskal-Wallis Test results for comfort with news made mostly by AI vs Journalists across Main source of news

Independent Variable	Groups	AI-generated news comfort			Journalist-produced news comfort		
		Median (IQR)	U Statistic	p-value	Median (IQR)	U Statistic	p-value
Main source of news	Tradicional media	3 (1)	16.104	<0.001 ***	3 (2)	1.092	0.579
	Websites/Apps	2 (1)			3 (2)		
	Tradicional media	2 (1)			3 (2)		