Fake or Fact? Factors Predicting the Capability of Recipients to Assess the Truthfulness of Impactful News

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Susceptibility to mis- and disinformation constitutes a risk for democracy. Research is needed on how well recipients assess the veracity of news and how their assessments are affected. Using quantitative data from a representative survey for Germany, I determined which features predict susceptibility to misinformation. Regression models show which aspects facilitate misperception and which competencies should be promoted to enhance resilience. The respondents tended to be biased and prone to misperceptions about the topics integrated into the study that surrounded the environment, sustainability, and international affairs. The article recommends media literacy programs to address the challenges of misperception.

Keywords: misperception, misinformation, attitudes, news, social media

Mis- and Disinformation in the Digital Media Landscape

Despite increasing research on "fake news," there is a lack of insights on the susceptibility to falsehood across various topics. This issue is especially pressing since mis- and disinformation often cannot be classified simply as false but rather as incomplete or misleading (Van der Linden & Roozenbeek, 2020). Rumors, conspiracies, and even satire may well have true aspects but are usually false at their core, their creators' and spreaders' motives are often unclear, and their origins and authors are in many cases unknown or deliberately obscured (Egelhofer & Lecheler, 2019). The ability to recognize questionable content is therefore particularly important.

In the web-based media landscape, questionable and potentially harmful information is mainly distributed via social media (Gelfert, 2018). In this environment, there is a serious lack of journalistic gatekeepers that control the news flow, hold back untrue content, and uphold standards of information and dialogue (Braasch & Graesser, 2020; Flanagin & Metzger, 2008). Journalists and editors suffer from "information overload," struggle with budget and time constraints, and can be sidestepped by nonjournalistic

communicators who distribute content and opinion directly to audiences (Ibrahim, 2020). Helped by algorithms, a flood of unverified, misleading, and sometimes dangerous half-truths is spreading faster than verifiable information (Lazer et al., 2018). During the COVID-19 pandemic—and its accompanying *infodemic*—this flood has worsened (Arin, Lacomba, Lagos, Mazrekaj, & Thum, 2021).

It is usually up to recipients to identify falsehood and protect themselves from its harmful effects (Braasch & Graesser, 2020). This process takes time and effort, and many recipients do not have the expertise to manage this task; they become confused rather than informed (Flanagin & Metzger, 2008; Kshetri & Voas, 2017). Recipients routinely fail to use critical thinking and assess the veracity of claims without a detailed examination (Braasch & Graesser, 2020). This could create a misinformed citizenry and influence voting behavior and consumption patterns, with misleading information impacting people's health-related and financial decisions (Kuklinski, Quirk, Jerit, Schwieder, & Rich, 2000; Lewandowsky, Ecker, & Cook, 2017). This can carry risks when people encounter politically important but polarizing themes like sustainability, religion, and the environment. It is crucial to understand the factors underlying assessments of the veracity of information, especially about subjects with far-reaching impacts on political decisions and environmental awareness.

In this study, I investigated which factors play a role in recipients' assessments of the truthfulness of news claims with varying degrees of accuracy, ranging from truthful statements to misrepresentations and focusing on topics with the potential to polarize audiences, based on quantitative survey data. Research on combating the acceptance and prevalence of false news is emerging, and there is growing demand for investigations into the factors underlying misinformation vulnerability (Littrell & Fugelsang, 2023; Preston, Anderson, Robertson, Shephard, & Huhe, 2021). Using illustrative topics, I address recipients' susceptibilities to misperceptions and how they meet information potentially harmful for society, politics, and public health (Preston et al., 2021). A representative sample of the German population provides valuable insights for a polarized democracy that is struggling with populism, political conflicts, and a partial decline in trust in journalism (Arendt, Haim, & Beck, 2019). These insights help to identify vulnerable recipients of questionable information as well as groups that may be resistant to correction and to suggest countermeasures (Erlich, Garner, Pennycook, & Rand, 2022). Several recipient-related traits will be used as possible indicators: preexisting attitudes toward the topic in question, media preference, political attitudes, and demographic properties such as age, gender, and education.

Although prior studies have focused on these factors (e.g., Arin et al., 2021) and some might argue that they are known territory, this claim should be contested as recent meta-studies are not able to come to a unified conclusion and call for further investigation on the reasons for misbelief and false-news consumption (e.g., Baptista & Gradim, 2020). Further, these factors have not been inspected at the example of critical news information in the German political landscape. This study contributes to the knowledge of misperception research in several ways. Illustratively, preexisting attitudes have not yet been featured sufficiently in quantitatively derived scenarios for a representative national sample. Dogmatism has been similarly acutely understudied in this context. Although political attitudes are a known explainer for engagement with misinformation (Morosoli, Van Aelst, Humprecht, Esser, & Staender, 2022), there is relatively little empirical evidence available to verify the claim that those who hold right-wing views are more susceptible to false news, or to assess how political identity interacts with predictors such as education (Arendt et al., 2019; Meirick, 2012). This is especially true for German samples, which are not featured in

international studies sufficiently (e.g., Roozenbeek et al., 2020). In general, research is far from fully understanding the influence of political identity on susceptibility for falsehood (Baptista & Gradim, 2022). Also, almost no studies have inspected misperceptions using diverse topics. Furthermore, "most current research into psychological factors influencing susceptibility to fake news does not take into account age differences" (Gaillard, Oláh, Venmans, & Burke, 2021, p. 2), a challenge I address. The need for studies of misperception outside the United States makes this work even more relevant in a European context.

The key question of this study therefore is how far media recipients can identify misrepresentations of current impactful and familiar topics, how this misperception varies across topics, and by which factors this is predicted.

Predictors of Misperception

I define *misperception* as "factual beliefs that are false or contradict the best available evidence in the public domain" (Flynn, Nyhan, & Reifler, 2017, p. 2; i.e., assuming that real news is rather false, or that false news is rather real). The operationalization is explained in a later section.

Rather than adopting an existing model on the factors behind misperception, I combined relevant theoretical approaches and empirical findings to reflect this multifaceted research topic, which is a common approach (e.g., Arendt et al., 2019; Arin et al., 2021; Blank & Shaw, 2015). I conducted a thorough literature review on media reception studies about misperception, cognitive models, media usage, and constituency. Several recipient-related traits are used as possible indicators: preexisting attitudes, media preference, political attitudes, and sociodemographics. Table 1 lists studies that have considered these variables before. A detailed overview is available online.[2] The state of research for each indicator will be discussed and used as a basis for formulating hypotheses.

Table 1. Overview of Published Papers Since 2017 That Have Considered the Variables of This Study.

Variable	Total count of studies	Deviating implementation[12]
Misperception	132	14
Preexisting attitudes	34	2
Dogmatism	7	5
Political leaning	77	35
Partisanship	10	3
Political interest	16	7
Preference for public broadcasting	19	8
Preference for private broadcasting	19	7
Preference for printed press	11	5
Preference for UGC on social media	16	3
Reliance on public broadcasting	20	5

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[2] https://osf.io/rtdya/?view_only=ef2f229c6d8f455a94fbc95e05e8c178

Education	85	70
Income	28	24
Age	113	97
Subjective informedness	9	2
Gender	113	105

Note. [1]Share of studies that did not measure misperception as the DV, [2]share of studies that implemented the IVs of this study only as control variables.

Mis- and disinformation often aim to appeal to recipients' worldviews to deceive and manipulate, exploiting the idea of "confirmation bias" (Porter, 2020). Recipients tend to accept statements that confirm their attitudes and preconceptions more readily, even when they disagree with the claims or their preexisting views are erroneous (Braasch & Graesser, 2020, p. 129; Gelfert, 2018; Lazer et al., 2018). When recipients hold attitudes about a topic, they pursue consistency in their beliefs and draw biased conclusions through "motivated reasoning" (Kuklinski et al., 2000, p. 794). Cognitive biases can thus inhibit analytical thinking and prevent recipients from recognizing untrue rumors—and these biased attitudes can make them resistant toward corrective information (Gelfert, 2018; Nyhan & Reifler, 2010). This makes audiences vulnerable to false news, which is often designed to exploit flaws in reasoning about the veracity of a claim (Porter, 2020). I propose that, when preexisting attitudes align with the false statements presented, bias comes into play, and these claims will tend to be falsely assessed as true. In contrast, consistent attitudes with true claims will enable recipients to identify them as such. In any case, a dogmatic mindset is expected to increase misperceptions since some research suggests that dogmatic individuals tend to be less likely to seek new information to refine their beliefs as well as to engage in open-minded, analytical thinking and more likely to believe falsehoods (e.g., Bronstein, Pennycook, Bear, Rand, & Cannon, 2019; Schulz, Rollwage, Dolan, & Fleming, 2022).

H1:   *The more the recipients' preexisting attitudes correspond with both a true and false claim, the more likely they will assess the claim as true.*

H1.1:   *The more dogmatic the recipients are, the higher their misperceptions.*

Recipients' political interests, voting tendencies, and party preferences play a crucial role in their misperceptions. Information about different topics is interpreted through a filter of political ideas, and how these claims are evaluated rests on attitudes and biases (Landrum, Lull, Akin, Hasell, & Jamieson, 2017, p. 5). Susceptibility to misinformation is therefore connected to political leaning, since even implausible rumors seem to be accepted if they fit a particular worldview (Lewandowsky et al., 2017, p. 19). According to motivated partisan reasoning (to differentiate from motivated reasoning), people tend to pay attention to information that is consistent with their partisan identities (Bolsen, Druckman, & Cook, 2013). Left- and right-wing viewpoints can be distinguished in terms of their focus: Although right-wing populists highlight cultural divisions, for example religious differences or what constitutes a "minority," left-wing populists focus on economic inequality (Rodrik, 2018). Environmental issues have been fiercely debated by left-wing parties in Germany for years and can be counted as a further agenda item, as can science skepticism on the right spectrum (Blank & Shaw, 2015). The very fact of partisanship—regardless of the direction—as opposed to an affiliation to the political middle can hinder the ability to identify falsehood that supports a particular political stance (Allcott & Gentzkow, 2017; Beauvais, 2022). I posit that, although recipients with affiliations toward the right spectrum will be prone to

misperceptions of political and religious topics, left-wing participants will tend to have false assumptions about environmental and economic issues. I also expect a generally higher misperception from right-wing affiliated recipients because some researchers argue that this subgroup is more likely to consume false-news sources (Grinberg, Joseph, Friedland, Swire-Thompson, & Lazer, 2019) and has been found to tend to believe in false news if it fits into their worldview, while this phenomenon was not found among left-wing individuals (Baptista, Correia, Gradim, & Piñeiro-Naval, 2021; Baptista & Gradim, 2022; Meirick, 2012). Grinberg et al. (2019) have suggested that, during the 2016 U.S. presidential elections, recipients who felt affiliated with any of the parties and who were very interested in politics engaged with false-news sources more frequently, fostering misperceptions (Arin et al., 2021). In that spirit, conservatives with high interest in politics were found to doubt climate change (Tesler, 2017). Similarly, politically engaged recipients seem more likely to distribute inaccurate claims (Valenzuela, Halpern, Katz, & Miranda, 2019). Because of comparable levels of involvement in politics among Germans and Americans, I anticipate vulnerability to misperceptions on the part of people who have a strong interest in politics.

H2:   The more the recipients lean toward the right of the political spectrum, the higher their misperceptions.

H2.1:   The more the recipients characterize themselves as partisan, the higher their misperceptions.

H2.2:   The stronger the recipients' expressed interest in politics, the higher their misperceptions.

Misperceptions can be generated by the information environment, since exposure to false news leads to a higher vulnerability to misperceptions (Arin et al., 2021; Guess et al., 2021; Meirick, 2012). Through their media usage patterns, recipients become familiar with the content, arguments, and presentation modes of the media they prefer (Larose, 2010). They create yardsticks that help them calibrate what types of statements they view as credible and accurate. Although traditional editorial offices endeavor to check their output for accuracy, this is not granted with nonjournalistic online content. Encounters with unchecked claims can contribute to what audiences believe (Guess et al., 2021). This holds true for social media, where messages are often short, simple, and subject to polarizing debates and "echo chamber" effects (Lewandowsky et al., 2017; Schwarz & Jalbert, 2020). What is perceived repeatedly is often assessed as true (for this "illusory truth effect," see Ecker et al., 2022, p. 14). The sheer volume of information on social media may be connected to beliefs in certain misinformation (Tandoc & Kim, 2022). Moreover, frequent digital media users consider its sources more trustworthy than traditional media, which may make them susceptible to questionable information (Lewandowsky, Ecker, Seifert, Schwarz, & Cook, 2012). In contrast, reliance on public broadcasters has been argued to support increased self-perceived and actual informedness (Lee, Yamamoto, & Tandoc, 2021; Lewandowsky et al., 2012). Therefore, I expect that preferences for and therefore use of journalistic media versus user-generated content (hence *UGC*; i.e., nonjournalistic media) affect the capability to assess the accuracy of media content and influence the degree of recipients' misperceptions. Reliance on German public service broadcasting is expected to decrease the susceptibility to misinformation because people tend to seek information from a source they consider reliable (Ardèvol-Abreu & Gil de Zúñiga, 2017). Low reliance on these types of news outlets can be interpreted as evidence of mistrust of established media institutions, a feature that has been found to correlate with conspiracy beliefs (De Coninck et al., 2021; Mari et al., 2022).

H3:   *The more the recipients prefer journalistic sources for obtaining information, the lower their misperceptions.*

H3.1:   *The more the recipients prefer nonjournalistic sources for obtaining information, the higher their misperceptions.*

H4:   *The more the recipients rely on public service broadcast media, the lower their misperceptions.*

Research has generated varying results about whether sociodemographic data accounts for people's misperceptions, but some consistent findings can be identified. Studies have suggested evidence of higher misperceptions on the part of lower-income and less-educated participants (Arin et al., 2021; Baptista & Gradim, 2020). A higher education level has been argued to correlate positively with people's capabilities to assess news as accurate or otherwise (Allcott & Gentzkow, 2017; Preston et al., 2021), whereas lower education has been put forward as a predictor of recipients' willingness to believe in conspiracy theories (Oliver & Wood, 2014). Although some researchers have postulated that older respondents are more engaged with misinformation and are more likely to misperceive, others have argued that older participants in fact had more accurate beliefs about news (Allcott & Gentzkow, 2017; Baptista & Gradim, 2020; Grinberg et al., 2019). Age is therefore a factor especially worth investigating.

Most people are confident in their abilities to spot falsehoods (Arin et al., 2021; Kuklinski et al., 2000). This, however, can result in an overclaim of knowledge or an overconfidence that, in turn, can lead to a greater tendency to believe in and disseminate misinformation (Lyons, Montgomery, Guess, Nyhan, & Reifler, 2021; Pennycook & Rand, 2019). Recipients who judge themselves highly capable of detecting falsehoods or believe to be familiar with various topics tend, in fact, to perform poorly in discerning between true and false information (Beauvais, 2022; Littrell & Fugelsang, 2023; Rahmanian & Esfidani, 2022). Some researchers have suggested that men tend to be more likely than women to overestimate their capabilities in this regard (e.g., Yang & Zhu, 2016). They have also been found to engage with misinformation more frequently (Morosoli et al., 2022). Male participants would therefore be expected to perform worse than females in correctly assessing the truth of news. Although, in some cases, female participants seemed to show a higher vulnerability to misperceptions (Arin et al., 2021); in others, this was only true for specific topics (Oliver & Wood, 2014). In conclusion, I assume that the more educated are less likely to misperceive, whereas age, gender, and subjective informedness have a (yet undetermined) effect on misperception.

H5:   *The higher the recipients' education level and income, the lower their misperceptions.*

H6:   *The recipients' ages will predict their levels of misperception.*

H7:   *The recipients' subjectively perceived informedness will predict their levels of misperception.*

H8:   *The recipients' genders will predict their levels of misperception.*

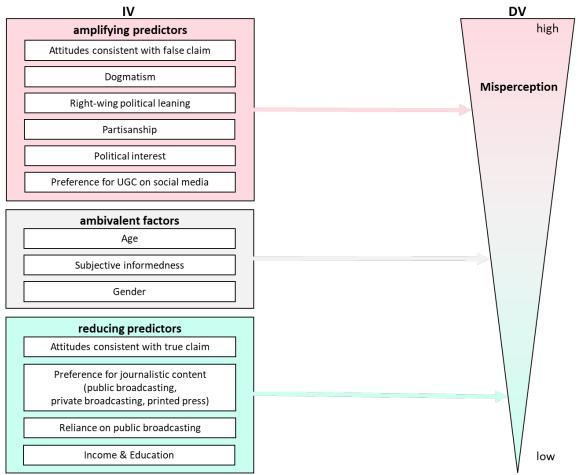Figure 1 shows all variables and the presumed relationships among them.

Figure 1. Presumed predictors and effects. Own illustration based on Ecker et al. (2022, p. 15).

Method

I conducted a cross-sectional standardized quantitative online survey with online panel participants gathered by the data collection service provider *Respondi* (certified according to Global ISO 26362). Participants were acquired by the provider using a quota-based sampling method. They completed the survey online via *Unipark*. The sample is representative of the German adult population in terms of age, gender, and education based on the census data at that time (Destatis, 2023). The survey phase lasted from March 15, 2019, to March 21, 2019, and generated 640 data sets. With the German adult population totaling around 69.5 million in 2019 and a confidence level of 95% and a 4% margin of error, I surpassed the minimum sample size of 601 participants (Social Science Statistics, 2023).

Respondents ranged in age from 18 to 69, with an average age of 46 years (SD = 14.10). Almost half of the sample was female (48.8%). A higher education degree was held by 18.1%, and 81.4% resided in Western Germany regions. Further statistics are found in Table 2.

Table 2. Descriptive Statistics for the Predictor Variables.

	M (SD)
Attitudes consistent with the topic "authorities"[1, 4]	3.46 (0.91)
Attitudes consistent with the topic "environment"[1, 4]	2.58 (0.69)
Attitudes consistent with the topic "traffic"[1, 4]	2.85 (0.57)
Dogmatism[1]	3.60 (0.71)
Political leaning[3]	3.84 (1.17)
Partisanship[2]	.85 (0.82)
Political interest[1]	3.33 (1.13)
Preference for UGC on social media[1]	2.34 (1.18)
Subjective informedness[1]	2.45 (0.90)
Preference for public broadcasting[1]	3.65 (1.26)
Preference for private broadcasting[1]	3.00 (1.20)
Preference for printed press[1]	3.42 (1.20)
Reliance on public broadcasting[1]	3.40 (1.00)
Income[1]	2.91 (1.29)
Education[1]	3.28 (1.07)

Note. [1] Mean on a 5-point Likert scale (1 = low, 5 = high), [2] Mean on a 3-point scale (1 = low, 3 = high), [3] Mean on a 7-point scale (1 = left, 7 = right), [4] See next chapter (N = 640).

The Dependent Variable

I calculate *misperception* as the degree of accuracy of the recipients' assessments of the truth of news statements.

Respondents were presented with a series of statements from different political subject areas with varying degrees of truthfulness, which they were asked to rate in terms of truthfulness (see Table 3). The topics were preselected to cover a range of topics (such as international affairs, the economy, and environmental issues) that are likely to elicit opinions and attitudes. I define these news topics as "impactful," as they have been discussed frequently in German politics and covered in German media for several years and therefore have the potential to influence voters' electoral preferences, consumer behaviors, and willingness to act sustainably. Also, for each individual statement, fact-checking efforts by journalistic German media outlets could be identified; therefore, I argue that these statements have passed a threshold of familiarity and relevance and are suitable for this study. Response options were given on a 5-point Likert scale from "completely true, mostly true, partly true, partly false, mostly false" to "completely false," following the rating principle of major fact-checking institutions. To mitigate against response tendencies, two statements were chosen that were "completely true" (henceforth described as *true*), while four claims were "mostly false" (henceforth described as *false*). I determined the truthfulness of the six

statements based on articles by fact-checking departments of a German public service broadcaster. From these journalistic fact-checks, key arguments were extracted and used to determine an objective degree of accuracy for each claim (Table 3).

Table 3. The Claims Presented in the Questionnaire With Their Truthfulness and Justification as True or False.

Topic	Claim	Accuracy of claim and reasoning
Turkish influence	*"The Turkish president is increasingly exerting influence on the work of the Turkish-Islamic Mosque Association DITIB in Germany."*	Mostly false: The president has the power to influence, but there is no evidence that he exercises it.
Regional labels	*"The label 'regional' does not guarantee that products really originate from the region."*	Completely true: "Regional" is not uniformly defined and does not guarantee regional origin.
Violence against rescue workers	*"The number of attacks on emergency workers (i.e., rescue workers, paramedics, and firefighters) has increased significantly in recent years."*	Mostly false: The problem exists, but there is a lack of evidence of significant increases in attacks.
Recycling quota	*"Germany's recycling rate is lower than officially claimed because the allegedly recycled plastic waste is in fact often burned or exported and only partially used abroad."*	Completely true: The official figures are falsified; for instance, a large proportion is exported to China or burned.
Air pollution in the subway	*"The health risk of fine-particle pollution in the subway is much higher than in city streets because there is little air exchange in the tunnels."*	Mostly false: Although fine-particle pollution is high, passengers do not stay long enough in the subway to be harmed.
Highway safety	*"Although there is no speed limit on German autobahns, they are the safest in the world."*	Mostly false: Autobahns are generally safe, but their safety rates are worse when compared with many other countries, particularly in Europe.

Note. Own formulation. Justifications and evidence were derived from journalistic fact-checking articles.

The deviation between the subjective truth assessment and the "actual" degree of truth of these statements serves as the dependent variable. The more a participant missed the actual degree of truth in their subjective assessments, the higher the deviation score, operationalized as "misperception." This results in a twofold strategy for calculating the dependent variable, depending on whether the presented claim is objectively true or false. For true statements, recipients were given a higher deviation score the more they assessed the claim as *in*accurate. Similarly, for false statements, any assessment in the direction of *true* was accorded a higher deviation score (see Table 4). This reflects my interpretation of misperception as "cases in which people's beliefs about factual matters are not supported by clear evidence and expert opinion" (Nyhan & Reifler, 2010, p. 305).

I next applied factor analysis to the six deviation scores. This produced three factors as the most appropriate option, which helped me identify patterns and trends in the findings (see Tables 5 and 6). Henceforth, the results will refer to these factors.

Table 4. Respondents' Deviation Scores Depending on the Statement's Veracity and the Respondents' Assessments of Their Truth.

Objective veracity	Subjective truth assessment	Deviation score = level of misperception
Scenario 1: 5 "completely true"	1. "completely false"	3
	2. "mostly false"	2
	3. "partly true, partly false"	1
	4. "mostly true"	0
	5. "completely true"	0
Scenario 2: 2 "mostly false"	1. "completely false"	0
	2. "mostly false"	0
	3. "partly true, partly false"	1
	4. "mostly true"	2
	5. "completely true"	3

Note. The higher the deviation score, the greater the misperception.

Table 5. Factor Loading Matrices With CFA Three-Factor Models.

	CFA factors		
Item	Factor 1 "authorities"	Factor 2 "environment"	Factor 3 "traffic"
Turkish influence	0.564		
Violence against rescue workers	0.639		
Regional labels		0.425	
Recycling quota		0.489	
Highway safety			0.424
Air pollution in the subway			0.677
Inter-Item Correlation	0.36**	0.21**	0.18**
Eigenvalue	1.731	1.112	0.947
M (*SD*)	2.07 (0.71)	0.58 (0.56)	1.16 (0.63)

Note. CFA: maximum likelihood estimation, standardized loadings. Correlations significant at 0.01 (2-sided). Covariances: −0.11 (between factors 1 and 2), −0.06 (between 2 and 3), 0.07 (between 3 and 1).

Table 6. Goodness-of-Fit Indicators of One- and Three-Factor Model for Misperception.

	X^2	*df*	X^2/df	GFI	AGFI	CFI	RMSEA
One-Factor Model	215.37***	14	15.38	0.89	0.83	0.00	0.15
Three-Factor Model	12.96**	6	2.16	0.99	0.98	0.97	0.04

Note. *** = $p < .001$ ** = $p < .01$.

The Independent Variables

To operationalize preexisting attitudes, a series of statements was devised to capture respondents' expressed stances with respect to these topics. Agreement with the statements was rated (on a 5-point Lickert scale from "completely disagree" to "completely agree"). Two statements per claim were calculated into indices. This allowed me to measure how far the participants' attitudes matched the tendencies toward truth or falsehood of the six statements and to gauge the degree to which the respondents' expressed attitudes aligned with the respective statement. Table 7 gives an overview of the wording used in the questionnaire. Additionally, dogmatism was measured similarly with a two-item index derived from the DOG scale (Crowson, 2010). Recipients were classified as more dogmatic the more they agreed with the two statements shown below.

Table 7. Items Measuring Preexisting Attitudes and Dogmatism.

Associated claim topic	Items
Turkish influence	(1) German culture must be protected from "foreign" influences.
	(2) Islam has a place in German society. #
Regional labels	(1) Whenever possible, people should not buy products that are energy-intensive or come from far away.
	(2) Goods produced in my region are not more trustworthy than imported products. #
Violence against rescue workers	(1) You can never be too careful when dealing with people.
	(2) The police should be able to use force to apprehend criminals.
Recycling quota	(1) The recycling system in Germany brings more costs than benefits. #
	(2) It should be legally stipulated that environmental protection has priority over private economic interests.
Air pollution in the subway	(1) I feel my health is threatened by increasing air pollution. #
	(2) When I walk down a congested street, I feel I can hardly breathe because of the gas emissions from cars. #
Highway safety	(1) Travelling by car feels safe.
	(2) Drivers who exceed the speed limit are a big safety problem. #
Dogmatism	(1) You may get angry when someone stubbornly refuses to see that they are wrong.
	(2) The first impression you have of a person is almost always the right one.

Note. # The values on the Likert scale for these claims were reversed before compiling the index of response values.

Participants were asked to rate the importance of different media services (journalistic and nonjournalistic) for obtaining information (on a 5-point Likert scale from "not important" to "very important"). To measure reliance on public broadcast media, I devised four statements about the subjective assessment of German public broadcasters' accuracy, trustworthiness, reliability, and impartiality (on a 5-point Likert scale from "completely disagree" to "completely agree"). Participants were then asked how well they felt they were informed about current events (on a 5-point Likert scale from "not informed" to "very informed").

Participants provided information on their political interest, extent of partisanship, and political leaning (from "right" to "left"; see Arendt et al., 2019), as well as sociodemographic characteristics (education, gender, and age).

Results

Recipients' Misperceptions

For all claims, participants had an average deviation of 1.27 points on a 5-point Likert scale (SD = 0.34). Misperceptions about all treated topics prevail among the sample.

Respondents were able to correctly assess the truthfulness of factor 1 "authorities" the least with an average deviation of 2.07 (SD = 0.71) and factor 2 "environment" relatively correctly with an average deviation of 0.58 points (SD = 0.56). Factor 3 "traffic" was incorrectly assessed with an average deviation of 1.16 (SD = 0.63; see Table 5). Respondents seem quite able to construe statements as true, whereas they tend to wrongfully assess false statements by interpreting them as truer than they are. A repeated-measures ANOVA confirmed significant differences in the misperceptions between the three topic factors (F(2, 1278) = 820.60, p < .001).

Predictors of Misperception

I calculated regression scenarios for each topic factor and obtained three expressive regression models (see Table 8).

Table 8. Predictors for Misperception.

	Factor 1 false claims on the topic "authorities"	Factor 2 true claims on the topic "environment"	Factor 3 false claims on the topic "traffic"
	β Coefficients[1] (*SE*), R^2 = 0.26	β Coefficients[1] (*SE*), R^2 = 0.07	β Coefficients[1] (*SE*), R^2 = 0.10
Topic-associated attitudes	0.27*** (0.04)	−0.09 (0.04)	0.13** (0.04)
Dogmatism	0.10* (0.04)	−0.08 (0.04)	0.07 (0.04)
Political leaning (left to right)	0.02 (0.03)	−0.06 (0.02)	0.06 (0.03)
Partisanship	−0.01 (0.04)	−0.08 (0.03)	0.01 (0.04)
Political interest	0.21*** (0.03)	−0.18*** (0.03)	0.10 (0.03)
Preference for UGC on social media	−0.04 (0.03)	0.07 (0.02)	0.11** (0.03)
Age	0.19*** (0.02)	−0.05* (0.02)	0.04 (0.02)
Subjective informedness	−0.03 (0.04)	−0.03 (0.03)	0.02 (0.04)
Gender	−0.05 (0.06)	−0.09 (0.05)	0.11 (0.06)
Preference for public broadcasting	0.20*** (0.03)	−0.10 (0.03)	−0.04 (0.03)
Preference for private broadcasting	−0.07 (0.03)	−0.03 (0.02)	0.10* (0.03)

Preference for printed press	0.05 (0.03)	0.02 (0.02)	0.02 (0.03)
Reliance on public broadcasting	−0.05 (0.04)	0.05 (0.04)	−0.06 (0.04)
Income	−0.06 (0.02)	0.02 (0.02)	0.03 (0.02)
Education	−0.04 (0.03)	0.03 (0.03)	−0.05 (0.03)

Note. [1] Multiple regression analysis, *** = $p < .001$ ** = $p < .01$ * = $p < .05$.

For factor 1 "authorities" (R^2 = 0.26, $F(14, 483)$ = 12.96, $p < .001$), five predictors for misperception were identified: topic-specific attitudes (β = 0.27, SE = 0.04, $p < .001$), dogmatism (β = 0.10, SE = 0.04, p < .05), political interest (β = 0.21, SE = 0.03, $p < .001$), preference for public broadcast services (β = 0.20, SE = 0.03, $p < .001$), and age (β = 0.19, SE = 0.02, $p < .001$). The analysis for factor 2 "environment" produced two predictors (R^2 = 0.07, $F(14, 483)$ = 2.40, $p < .01$): political interest (β = −0.18, SE = 0.03, $p < .001$) and age (β = −0.05, SE = 0.02, $p < .05$) significantly reduced misperceptions. Factor 3 "traffic" (R^2 = 0.10, $F(14, 483)$ = 3.50, $p < .001$) demonstrates that topic-associated attitudes (β = 0.13, SE = 0.04, $p < .01$), preference for private broadcasting (β = 0.10, SE = 0.03, $p < .05$), and preference for social media (β = 0.11, SE = 0.03, $p < .01$) gave rise to misconceptions.

Discussion

I address the key question of this study in a threefold way. First, I determined how far the participants deviated from objective truthfulness when assessing the statements. Second, I examined how much the results vary depending on the news topic. Finally, I examined which factors may have predicted these misperceptions.

Results suggest that recipients failed to assess the statements' veracity. Participants apparently assumed that all the claims were somewhat true because verifiably true claims were misperceived less often than false claims, which were often erroneously believed to be true. Although the misperception rates differed between topics, statements about "authorities" and "traffic" indicated respondents' higher misperceptions than statements referring to the topic "environment."

The results suggest that preexisting attitudes amplified misperceptions of false statements—if a statement aligns with preexisting attitudes toward a topic, this statement is more likely to be accepted, even when false. Dogmatism promoted misperceptions on some topics, suggesting that H1 and H1.1 were confirmed. It could be argued that interest in politics tended to result in participants less likely to question the veracity of statements presented to them, which led to a higher misperception rate but also helped them identify truthful information. I found no trends in misperceptions of traditionally "left" or "right" topics. It is surprising that preferences for public and private broadcast services seem to coincide with a tendency to misperceive. Likewise, preference for UGC was more likely to reflect a greater tendency to misperceive a statement's veracity. Therefore, evidence supporting H3.1 was found. Age seems to influence whether people assess statements as true, regardless of the claims' verifiable truth. Thus, evidence supporting H6 was identified.

The findings suggest that misperceptions were stronger about the topic "authorities," perhaps because of the potential for polarized responses to statements about German-Turkish relations or about

speed limits on autobahns. It seems that misperceptions are common in these topic areas. Prior studies found that Europeans associate the topic of immigration with misinformation the most, underlining possible polarization (Hameleers, Brosius, & de Vreese, 2021). Their German subsample said that the environment is one of the topics most impacted by misinformation. This implies that although citizens are aware of falsehoods in current news, they are not able to identify them. These insights should be picked up by verification institutions to address discrepancies in public and political discourse.

Preexisting attitudes seem to exert a strong influence on misperception (Gaillard et al., 2021; Tsfati et al., 2020). This finding underlines that recipients often seem to rely on prior beliefs and do not invest time, attention, or thinking capacity into their information assessments (Bryanov & Vziatysheva, 2021). Vital cognitive "construction sites" may therefore be recipients' worldviews and preferred media that, following the "selective exposure" principle, tend to bolster existing attitudes. Plausibly, the less dogmatic a person is and the more flexible their preconceptions, the more they can evaluate information impartially and avoid misperceptions. Educators could help people question their beliefs and analyze their opinions. Misperceptions of statements about traffic seem to be amplified by social media inclinations. Perhaps algorithms and echo chambers tend to spread certain views about German autobahns, speed limits, or air pollution. Social media is a breeding ground for conspiracy beliefs and populism from the right-wing spectrum, and this threat needs to be taken seriously (Arendt et al., 2019). Surprisingly, those who generally prefer public or private broadcast services also seemed liable to misperceive; however, some researchers have argued that consuming traditional media does not necessarily increase factual knowledge (Lee et al., 2021). News outlets sometimes convey stories containing unintentional factual errors or act as disseminators when they report about false news (Gaillard et al., 2021; Tsfati et al., 2020). Another driver of misperception could be news channels' presentations of topics divorced from their wider contexts. Journalism is rarely free from framing and subtext. Most German citizens still use, rely on, and receive news from public broadcasters the most, while the providers frequently face criticism for a lack of neutrality (Hölig, Behre, & Schulz, 2022). General interest in politics seems to be a prominent predictor of misperception. When the data were collected, environmental issues were hot topics, and relatively unbiased information—for example, about sustainability—was possibly more evident than for other subjects. Information supplied by the news needs to stay balanced, regardless of "hot topics." Finally, a higher age acted as a predictor for an inability to assess the accuracy of news statements. Possibly, older recipients are inured to established media outlets and tend to believe news reports, as they are not accustomed to professionally produced online misinformation. However, social media usage is increasing among this age group, with older recipients more likely to misperceive certain topics. Since older people tend to be more interested in politics, they may be more vulnerable to the allure of false news that harmonizes with their political beliefs. Moreover, some scholars have suggested that people of different ages construe news items differently because of cognitive variations (Gaillard et al., 2021).

How is misperception predicted? Preexisting attitudes, preference for UGC, and dogmatism seem to foster misperceptions. An overreliance on public and private broadcasting makes some people susceptible to misinformation. Other factors seem to function as "alertness reducers," as they may induce some recipients to automatically view *all* news-related statements as correct. This could imply that politically interested and older participants unquestioningly assume that news claims are generally truthful and fall for

a so-called "truth bias" (Bryanov & Vziatysheva, 2021) or that they overvalue their opinions' evidential bases. This group's seeming lack of skepticism when evaluating information is disconcerting and represents a fruitful area for further research.

Conclusion

Research suggests that recipients can hardly distinguish falsehood from verified journalistic content (e.g., Higdon, 2020). Factors that can help people spot accurate news can be the same ones that result in their belief in falsehoods. The methods recipients use to assess news are contextual and complex, and there seems to be no agreed-upon and reliable strategy for what to do when encountering misinformation. Reducing misperceptions is a challenging but essential task to counteract long-term effects such as the inefficiency of correcting erroneous content after a story has spread (Ecker et al., 2022; Gaillard et al., 2021). Further research into information provision and consumption could generate strategies to counter mis- and disinformation, and this would be a vital service for everyone involved in reporting on, disseminating, and consuming news.

Communicators, recipients, and mediators (un)consciously contribute to spreading and reinforcing falsehoods, which can run the risk of creating a misinformed citizenry and endangering democracy itself (Greifeneder, Jaffé, Newman, & Schwarz, 2020). A recent and expressive example can be found in the Russian media landscape concerning the state's war on Ukraine. It is crucial to break this cycle by enabling all parties to combat misinformation and mitigate its impacts on society and democracy. Social networks and journalists should update their models and methods, prioritize fact-checking, and emphasize editorial overview, thus helping to create a more informed and empowered citizenry (Kshetri & Voas, 2017; Lewandowsky et al., 2017). Recipients, the key link in the misinformation chain, should not only be further studied on their abilities to identify falsehoods and possible explanatory factors affecting these abilities; they also need to be educated on how to identify erroneous messages (Lazer et al., 2018). Misconceptions are common, hindering recipients' capacities to distinguish true from false. However, *critical news literacy* and *information literacy*—competencies in handling news and information critically—could enable audiences to identify falsehoods (Ecker et al., 2022; Higdon, 2020), even on social media (Chan, 2022). It is important to tailor news literacy programs to all age groups and to address older recipients just as much as digital natives (Gaillard et al., 2021). However, even fact-checking and literacy programs are no panacea and need to be improved, as research shows that corrections and interventions encounter little interest and can even backfire (Lewandowsky et al., 2012).

People should be enlightened about the dangers, economics, and psychology of mis- and disinformation and the importance of overcoming biases, updating conceptions in favor of facts, and having a reflective, open-minded attitude (Kuklinski et al., 2000; Lewandowsky et al., 2017). These approaches can help inoculate audiences against disinformation, especially in public health crises such as COVID-19 (Braasch & Graesser, 2020; Lewandowsky et al., 2017; Scherer & Pennycook, 2020). The goal is to engage recipients as crucial contributors in the battle against falsehood and to reestablish verifiable facts as the underpinning of democracy (Kuklinski et al., 2000). Finally, researchers should take an interdisciplinary approach to ensure reliability and validity and reference work in other fields to support their arguments and

recommendations (Lazer et al., 2018). Studies like this can contribute to tailored measures by offering insights into what may account for the instances of misperception examined here.

Limitations and Follow-up Research

First, the relatively small rates and effect sizes that this study produced must be addressed. Although the results were significant and small-scale results are not uncommon within the area of misperception research (see Bryanov & Vziatysheva, 2021), they are far from universally valid, and the remaining questions need to be reexamined with a larger sample. Despite a representative sample size, sampling errors could not be completely prevented. All results and interpretations must be taken with a pinch of salt. In particular, misinformation around polarizing and politically charged issues needs to be further investigated to identify approaches to overcome "ideological rifts" (Landrum et al., 2017, p. 7). Results depend on the wording and accuracy of the statements that are assessed in a study. These findings therefore need to be questioned in terms of the sampled topics' representativeness, not just that of the respondents. Future studies need to ensure reliable comparisons to compensate for imbalances by using information with varying degrees of veracity and political "loading." The presentation, framing, and tone of news statements can have an impact and need to be studied further (Bryanov & Vziatysheva, 2021; Jaffé & Greifeneder, 2020). Related to this, the measurement of misperception was carried out under consideration of construct validity and the adequacy of question formulation (Graham, 2022). Nevertheless, I cannot rule out without a doubt that, in some cases, the survey rather uncovered the participants being uniformed than misinformed, and the "conceptual-operational gap" (Lindgren et al., 2022, p. 196) was not overcome. Follow-up studies should implement strategies such as experimental designs to address this uncertainty.

Although I operationalized the notions of preexisting attitudes, dogmatism, and reliance appropriately, follow-up studies should focus on the relationships between cognition and misperception. Other variables for misinformation susceptibility—such as (mis)trust in institutions—should be investigated (Scherer & Pennycook, 2020), as should research on overconfidence and its effect on the misjudging of information (Lyons et al., 2021). Related fields in psychology, such as analytical thinking and misperception, could also be fertile areas of study (Erlich et al., 2022).

Further insights into misperceptions could come from examining the processes underlying the assessments of truth and falsehood (e.g., how "mainstream" and traditional media outlets cover stories about false news, see Tsfati et al., 2020). It is vital to illuminate possibilities and obstacles in correcting misperceptions after they have manifested (Flanagin & Metzger, 2008). The efficacy of measures such as journalistic retractions and fact-checking campaigns needs to be evaluated—research into this has been limited and contradictory. Recipients and their cognitive processes should be studied further, not only to examine the mental processes that hinder the capability to correct and reedit previous conceptions but also to investigate extreme instances of misperception, such as belief in conspiracy theories (Mari et al., 2022).

On a final note, this work is necessarily a product of its time. It is now crucial to research possible changes in recipients' capacity to identify falsehood in light of an ever-evolving media landscape of proliferating social media networks, developments in AI and the increasing automation of (non)journalistic content.

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