Information behavior during Covid-19: differences of South American and German media users, their confidence with information provision and handling of misinformation

by Stefan Dreisiebner, Fedra Kuttkat, Sophie März, Thomas Mandl

Introduction

During crises, the kind of information, citizens require differs due to a changing environment and personal situation. Covid-19 represents a worldwide crisis – a pandemic associated with a high level of uncertainty. Already after the first Covid-19 cases occurred, more information was needed[1]. People all over the world are experiencing a new and difficult time which is formed by anxiety, insecurity and passion. All media and channels are providing information about the situation, regulation, health advices and personal interests. This amount of possible information can lead to information overload which in return has an effect towards information avoidance[2]. However, also fake news and conspiracy theories get more and more attention. It is necessary to understand how people seek and evaluate information in different parts of the world.

STEFAN DREISIEBNER, Karl-Franzens-Universität Graz, Institut für Unternehmensführung und Entrepreneurship, Austria, e-mail stefan.dreisiebner@uni-graz.at.
FEDRA KUTTKAT, Stiftung Universität Hildesheim, Institut für Informationswissenschaft & Sprachtechnologie, Germania, e-mail kuttkat@uni-hildesheim.de.
SOPHIE MÄRZ, Stiftung Universität Hildesheim, Institut für Informationswissenschaft & Sprachtechnologie, Germania, e-mail sophiemaerz@gmx.de.
THOMAS MANDL, Stiftung Universität Hildesheim, Institut für Informationswissenschaft & Sprachtechnologie, Germania, e-mail mandl@uni-hildesheim.de.
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1 Ana I. Bento [*et al.*], *Evidence from internet search data shows information-seeking responses to news of local Covid-19 cases*, «Proceedings of the National Academy of Sciences of the United States of America», 117 (2020), n. 21, p. 11220-11222, DOI: 10.1073/pnas.2005335117.

2 Saira H. Soroya [*et al.*], *From information seeking to information avoidance: understanding the health information behavior during a global health crisis*, «Information processing & management», 58 (2021), n. 2, art. 102440, DOI: 10.1016/j.ipm.2020.102440.

The study presented here provides a first comparison of individuals' perception and behavior due to Covid-19 from different countries. All countries share aspects during this global health crisis, but there are also big differences: « [...] each country has its unique political and social systems that affect information behavior and environments»[3]. Therefore, as a follow up study to Dreisiebner, März, and Mandl[4], individuals from Germany and South America were asked through an online survey about their information provision confidence, information seeking behavior, media usage and handling of fake news during Covid-19. Furthermore, besides differences between the countries, behavioral changes are investigated. This study gives a first insight into information behavior before and after the crisis.

Information behavior in crises

Information behavior is not static; much rather it changes and evolves. Individual's behavior differs with a different search context[5] and this can be observed in particular during a crisis like the current pandemic.

Information behavior includes all steps from the information need typically up to the satisfaction: the right or a suitable information is found. Therefore, individuals acquire different strategies, forms, patterns and behaviors[6]. Disasters and crises change human information behavior, whether they are natural or human made[7]. The media and news consumption due to increasing information need of people is growing: «Global health crises are also *information* crises»[8]. Especially digital media is an information source during crises for seeking relevant information, but also to communicate[9].

Research in crisis information touches on several disciplines. Therefore, information literacy but also (e)health literacy, identification of misinformation or fake news and managing of information provided through different sources, especially social media content should be considered in this context[10].

The creation of misinformation and its diffusion are serious problems for societies especially during crises. There are many different forms of problematic forms of infor-

3 Bo Xie [*et al.*], *Global health crises are also information crises: a call to action*, «Journal of the Association for Information Science and Technology», 71 (2020), n. 12, p. 1419-1423, DOI: 10.1002/asi.24357.

4 Stefan Dreisiebner; Sophie März; Thomas Mandl, *Information behavior during the Covid-19 crisis in German-speaking countries*, «arXiv», 2 novembre 2020, art. arXiv:2007.13833 [cs], <http://arxiv.org/abs/2007.13833>.

5 S. H. Soroya [*et al.*], *From information seeking to information avoidance* cit.

6 Thomas D. Wilson, *Information behaviour: an interdisciplinary perspective*, «Information processing & management», 33 (1997), n. 4, p. 551-572, DOI: 10.1016/S0306-4573(97)00028-9.

7 Monika Krakowska, *Information behavior in crisis situations*, «Zagadnienia informacji naukowej - Studia informacyjne», 58 (2020), n. 2a, p. 61-85, DOI: 10.36702/zin.716.

8 B. Xie [*et al.*], *Global health crises are also information crises* cit.

9 Piper L. Liu, *Covid-19 information seeking on digital media and preventive behaviors: the mediation role of worry*, «Cyberpsychology, behavior and social networking», 23 (2020), n. 10, p. 677-682, DOI: 10.1089/cyber.2020.0250.

10 B. Xie [*et al.*], *Global health crises are also information crises* cit.

mation[11] and it is often distributed due to economic interests. They often spread fast and are associated with emotions[12]. Especially during a health crisis which requires appropriate behavior of the citizens, it is crucial that correct information is spread in order not to delay the reactions. The Corona crisis has seen much misinformation and research about its diffusion. Our study contributes some preliminary insights into how misinformation was perceived in different countries.

State of the art

The Covid-19 pandemic and the related information seeking behavior of individuals is a recent research topic for scientists all over the world.

Relations between different situations are made, searching behavior, sharing of misinformation and conspiracy theories are getting more and more widespread. We will refer to such misinformation as 'fake news', even though this term is controversial. However, it is the best understood term for most citizens.

The information literacy of every person is necessary to handle large amounts of provided information for a topic which is new for anyone. Due to the occurrence of fake news and conspiracy theories and the spread of valid and invalid information, the Covid-19 pandemic is also called 'infodemic'[13]. In creating an ehealth literacy measure for Covid-19, the authors conducted an online survey with 1,037 adults from all German federal states to investigate coronavirus-related health literacy and individuals feeling of being informed or confused about Covid-19. More than half of the participants were classified into either having inadequate or problematic knowledge about the virus. Especially in regard to information evaluation and its decision of valid or non-valid information[14].

In Italy, the scientists Rovetta and Bhagavathula[15] analyzed the search query behavior with Google trends in regard to infodemics. Therefore, four infodemic attitude groups were built to identify keywords belonging to infodemic search behavior: "superficial attitude", "misinformative attitude", "racist attitude" and "definitive attitude". Top searches in the query logs were related to disinfectants, face masks, health news and Covid-19 symptoms. Regions in Italy varied in preferred

11 Thomas J. Froehlich, *A not-so-brief account of current information ethics: the ethics of ignorance, missing information, misinformation, disinformation and other forms of deception or incompetence*, «BiD: textos universitaris de biblioteconomia i documentació», 2017, n. 39, DOI: 10.1344/BiD2017.39.8; David Bawden; Lyn Robinson, *The dark side of information: overload, anxiety and other paradoxes and pathologies*, «Journal of information science», 35 (2009), n. 2, p. 180-191, DOI: 10.1177/0165551508095781.

12 Bilal Ghanem; Paolo Rosso; Francisco Rangel, *An emotional analysis of false information in social media and news articles*, «ACM Transactions on internet technology», 20 (2020), n. 2, art. 19, DOI: 10.1145/3381750.

13 Orkan Okan [*et al.*], *Coronavirus-related health literacy: a cross-sectional study in adults during the Covid-19 infodemic in Germany*, «International journal of environmental research and public health», 17 (2020), n. 15, art. 5503, DOI: 10.3390/ijerph17155503.

14 *Ibidem*.

15 Alessandro Rovetta; Akshaya Srikanth Bhagavathula, *Covid-19-related web search behaviors and infodemic attitudes in Italy: infodemiological study*, «JMIR public health and surveillance», 6 (2020), n. 2, art. e19374, DOI: 10.2196/19374.

search terms, spread misinformation and therefore interests towards the pandemic[16]. National lockdowns also forced Italian libraries to close, which focused on how to support information supply on Covid-19 considering these circumstances[17].

Sharing and receiving health misinformation in form of conspiracy theories is another topic concerning infodemic behavior and fake news during Covid-19. Researchers conducted three studies (N1 = 949; N2 = 2,250; N3 = 2,254) with British residents in form of online questionnaires to investigate relations between social media consumption, health-protective behavior and conspiracy beliefs. Accepting social media as a preferred source for Covid-19 information, people are more likely to belief conspiracy theories. In believing these conspiracy theories, individuals tend to adhere less to Covid-19 specific health-protective behaviors[18].

On the contrary, a study conducted with Chinese citizens found a positive relationship between the consumption of digital media such as social media, mobile social networking apps, online news media and social live streaming with preventive behavior such as washing hands. Digital media was used to educate citizens about preventive behavior to control the situation. The sample consisted of some 500 participants, and they were asked about preventive behaviors, worries and Covid-19 information seeking behavior in an online survey. The author suggests that the consumption of Covid-19 information stimulates worry and fosters in return preventive behavior[19]. Increased information provision which can be overwhelming for users might foster this worry which is also investigated by Soroya et al.[20]. Here, the relation between information overload, information anxiety and information avoidance was examined. Within an online survey with 321 Finnish adults, a 'stimulus-organism-response' framework was tested. As information resources, traditional mass media, social media and other internet resources were taken. Friends and families were not a favorite source for information. People who often used social media were more triggered by information overload and information anxiety. Especially WhatsApp and YouTube were good predictors of perceived information overload[21].

Furthermore, communication is essential during a pandemic as there are several possibilities for people to consume provided information via different channels. In an online survey (N = 385), conducted in Spain after one month of state of alert due to the pandemic, people mainly used mainstream news media and WhatsApp. Different sources as television, newspaper and radio were taken to seek for information. This media usage correlates with trust towards the government and its communication[22].

16 *Ibidem*.

17 Vittorio Ponzani; Rosa Maiello, *Questioni di metodo: i comunicati AIB a supporto delle biblioteche e dei bibliotecari di fronte all' emergenza da Covid-19*, «AIB studi», 60 (2020), n. 1, p. 143-155, DOI: 10.2426/aibstudi-12182; Alessandra Boccone; Tania Maio, *Biblioteche e bibliotecari nel Wikiproject Covid-19: authority control, contenuti di qualità e linked open data*, «AIB studi», 60 (2020), n. 2, p. 269-291, DOI: 10.2426/aibstudi-12189.

18 Daniel Allington [*et al.*], *Health-protective behaviour, social media usage and conspiracy belief during the Covid-19 public health emergency*, «Psychological medicine», 2020, DOI: 10.1017/S003329172000224X.

19 P. L. Liu, *Covid-19 information seeking on digital media and preventive behaviors* cit.

20 S. H. Soroya [*et al.*], *From information seeking to information avoidance* cit.

21 *Ibidem*.

22 Angeles Moreno; Cristina Fuentes-Lara; Cristina Navarro, *Covid-19 communication management in Spain: exploring the effect of information-seeking behavior and message reception in public' s evaluation*, «Profesional de la información», 29 (2020), n. 4, art. e290402, DOI: 10.3145/epi.2020.jul.02.

The use of social media has also been discussed from the perspective of responding to and managing a crisis. Based on interviews, Bunce, Partridge, and Davis[23] emphasize the use of social media exclusively. As social media have the advantage of quick information dissemination, they can be considered an important factor in successful risk communication[24]. Ruggiero and Vos[25] analyze the needs of citizens qualitatively by examining social media posts. Their review also gives insight into the diversity of methods applied in the domain. The different types of users active during times of crisis have been characterized within Twitter for the earthquake in Nepal[26]. The authors find the main types to be mourners, helpers, anxious, returnees, fans, detectives, and curious. These types of users exhibit very diverse needs and behaviors.

For the Covid crisis, Bento et al.[27] show that the information demand varies with the local level of infections. In a study in China, digital formats are found to be the major information sources during the Covid outbreak[28]. The questionnaire study analyzes which types of media (social media, streaming services, news channels) were used and how users perceived the preventive behaviors recommended by officials. This short overview shows that there are particular patterns of information behavior during the crisis in different countries.

Methodology

It is obvious, that more studies on Covid related information behavior are necessary and that the differences between countries have not yet been fully explored. This study tries to provide some preliminary insights.

An online survey was conducted as a follow-up study to Dreisiebner, März, and Mandl[29], where data was collected in April 2020 in the German speaking countries. In order to obtain data for an international comparison the survey used in Dreisiebner, März, and Mandl[30] was additionally translated to Spanish. Individuals were asked

23 Sharon Bunce; Helen Partridge; Kate Davis, *Exploring information experience using social media during the 2011 Queensland Floods: a pilot study*, «The Australian library journal», 61 (2012), n. 1, p. 34-45, DOI: 10.1080/00049670.2012.10722300.

24 Elissa M. Abrams; Matthew Greenhawt, *Risk communication during Covid-19*, «The journal of allergy and clinical immunology: in practice», 8 (2020), n. 6, p. 1791-1794, DOI: 10.1016/j.jaip.2020.04.012.

25 Aino Ruggiero; Marita Vos, *Social media monitoring for crisis communication: process, methods and trends in the scientific literature*, «Online journal of communication and media technologies», 4 (2014), n. 1, p. 105-130, DOI: 10.29333/ojcmt/2457.

26 Rajib Subba; Tung Bui, *Online convergence behavior, social media communications and crisis response: an empirical study of the 2015 Nepal earthquake police Twitter project*. In: *Proceedings of the 50th Annual Hawaii International Conference on System Sciences, January 3-7, 2017, Big Island, Hawaii*, edited by Tung X. Bui, Ralph Sprague. Honolulu: University of Hawaii at Manoa, 2017, p. 284-293, <http://hdl.handle.net/10125/41183>.

27 A. I. Bento [et al.], *Evidence from internet search data shows information-seeking responses to news of local Covid-19 cases* cit.

28 P. L. Liu, *Covid-19 information seeking on digital media and preventive behaviors* cit.

29 S. Dreisiebner; S. März; T. Mandl, *Information behavior during the Covid-19 crisis in German-speaking countries* cit.

30 *Ibidem*.

to participate in the survey between June and September 2020. Participants were recruited through newsletter, the university homepage and several social media platforms as LinkedIn, Xing or WhatsApp.

Part	Content
Introduction	Welcoming, motivation and reason of the survey, data privacy
Demographical data	Age, gender, place of living, education, home office, risk group of Covid-19
News consumption	Perceived changes in information behavior
Media usage	- Intensity of the usage of different sources before and during the crisis
	- Sources
	- Factors for media usage
Information seeking	- Confidence with the information provision during Covid-19
	- Reasons for information seeking
Fake news	- Receive of fake news
	- Reaction & behavior
Further annotations	Further perceived information behavior changes, suggestions, thanks

Figure 1 – Online survey construction

Figure 1 shows the seven sections of our online survey. It starts with an introduction and a data privacy confirmation. After that, demographical data and self-perceived changes in news consumption and behavior were asked. Media usage and the intensity before and during Covid-19 were other important items to recognize changes in their information seeking behavior towards required sources and factors in choosing reliable sources. Also, the confidence in information provision and reasons for information seeking were part of the survey. With regard to fake news, participants were requested to state whether they received fake news and how they dealt with them. As an open text field, further perceived information behavior changes could be described.

Pretests were conducted and small improvement were implemented in the survey. The goal was to ensure satisfying understandability comprehensibility and usability. The results were analyzed using Microsoft Excel and IBM SPSS.

Results

The online survey was used to identify differences and similarities in information behavior during the Covid-19 crisis between German and Spanish speaking individuals. Therefore, the participants are presented due to their demographic characteristics, followed by different behaviors in media usage, information consumption and handling of fake news.

Participants

The sample consists of 29 participants from Germany and 34 from Spanish speaking countries as South America. Since we followed a convenience sampling approach for this preliminary study, no representativeness can be claimed. The sample is described more detailed in Figure 2.

Demographic Variable	Category	Germany N	Germany %	South America N	South America %	All Participants N	All Participants %
Age	< 18	0	0.0%	0	0.0%	0	0.0%
	18-29	17	58.6%	4	11.8%	21	33.3%
	30-39	8	27.6%	5	14.7%	13	20.6%
	40-49	1	3.4%	7	20.6%	8	12.7%
	50-59	2	6.9%	10	29.4%	12	19.0%
	> 60	1	3.4%	8	23.5%	9	14.3%
	Total	29	100.0%	34	100.0%	63	100.0%
Gender	Male	11	37.9%	6	17.6%	17	27.0%
	Female	18	62.1%	28	82.4%	46	73.0%
	Diverse	0	0.0%	0	0.0%	0	0.0%
	Total	29	100.0%	34	100.0%	63	100.0%
Graduation	Qualified secondary school	0	0.0%	1	2.9%	1	1.6%
	Secondary school leaving certificate	1	3.4%	0	0.0%	1	1.6%
	Abitur/ A-Level	6	20.7%	2	5.9%	8	12.7%
	University Degree	21	72.4%	31	91.2%	52	82.5%
	Other	1	3.4%	0	0.0%	1	1.6%
	Total	29	100.0%	34	100.0%	63	100.0%
Working from Home	Yes	23	79.3%	28	82.4%	51	81.0%
	No	6	20.7%	6	17.6%	12	19.0%
	Total	29	100.0%	34	100.0%	63	100.0%
Belonging to Risk Group	Yes	5	17.2%	13	38.2%	18	28.6%
	No	24	82.8%	21	61.8%	45	71.4%
	Total	29	100.0%	34	100.0%	63	100.0%
Current Location	Germany	29	100.0%	0	0.0%	29	46.0%
	South America	0	0.0%	34	100.0%	34	54.0%
	Total	29	100.0%	34	100.0%	63	100.0%

Figure 2 – Demographic data participants

The majority of the whole sample are female (Germany: 62.1%; South America: 82.4%), while 37.9% and 17.6% are male. More than half of the participants from Germany are between 18 and 29 years old (58.6%), 27.6% between 30 and 39 years and 6.9% between 50 and 59 years. In total, only 3.4% of the German participants are between 40 and 49 years old and older than 60 years. In the age distribution of participants from South America are comparatively more participants in the older age groups. Only 11.8% are between 18 to 29 years and 14.7% between 30 and 39 years, while more participants are 40 to 49 years (20.6%), 50 to 49 years (29.4%) and over 60 (23.5%) years old. These different trends in age distributions and gender diversity should be considered when interpreting the results. Overall, most par-

ticipants from Germany as well as from South America have a university degree (72.4%; 91.2%), followed by an A-level degree (*German Abitur*) (20.7%; 5.9%). Only one person from South America has a qualified secondary school certificate (2.9%) and another from Germany has a secondary school leaving certificate (3.4%). One German participant also reported other educational qualifications (3.4%). Furthermore, 79.3% of the participants from Germany reported working from home at the time of the survey and 17.2% classified themselves as belonging to a risk group in the context of Covid-19. In South America, more people considered themselves to be in a risk group (38.2%) which could be related to the age distribution and 82.4% worked from home. In general, the demographic data illustrates that the sample is not representative but can provide an approach for differentiating research between Germany and South America in the area of information behavior.

Media usage (behavior & factors)

In terms of self-perception of media consumption, 71.4 percent from Germany and 67.6 percent from South America reported consuming more information and news since the Covid-19 crisis began. In the survey, the participants were asked to rate the intensity of use of different channels before and during the crisis using a 7-point Likert scale (1: Daily; 2: >= 2 per week; 3: once a week; 4: >= 2 per month; 5: once a month, 6: less frequently than once a month; 7: never). The channels most used by participants from Germany during the crisis are public television (M = 2.93), online communication with acquaintances and friends (M = 2.93) and online and offline national newspapers (M = 3.03). These are also the most used channels in South America, but with lower mean values compared to German public television (M = 1.94); online communication with acquaintances and friends (M = 2.09); national online and offline newspapers (M = 2.53). The least frequently used media in Germany were private television (M = 5.28) and, in particular, social media such as Twitter (M = 5.17), YouTube (M = 4.86), Instagram (M = 4.83) and Facebook (M = 4.31). It is noticeable that the participants from South America use private television more frequently with a mean value of 3.65. Facebook (M = 5.00), international sources (M = 4.62), such as radio broadcasts, as well as YouTube (M = 4.56) and podcasts (M = 4.53) are used the less frequently here.

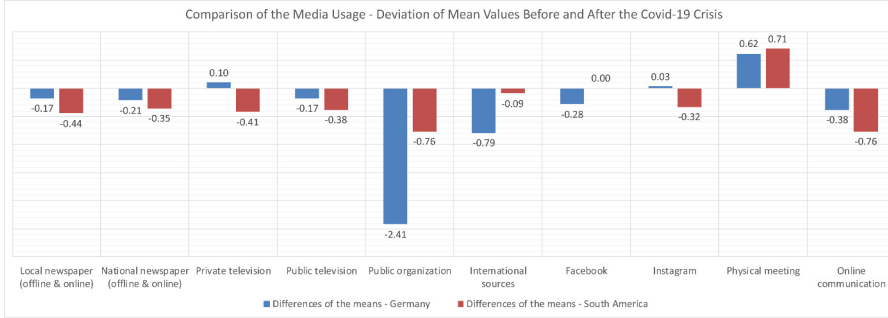

Figure 3 – Media usage comparison

Figure 3 shows the deviations of the mean values of the intensity of use of the information sources before and during the crisis. This shows that in Germany the use of public organizations as information resources, such as the German Robert Koch Institute (RKI) (difference = -2.41), and international sources (difference = -2.41), as well as the use of online communication tools (difference = -0.38) increased most. In South America, the most significant

changes are also visible in the use of public organizations as a source of information (difference = - 0.76), online communication tools (difference = -0.76) and local online & offline newspapers (difference = -0.44). Only a change of -0.09 is shown in the use of international sources. Furthermore, it is remarkable that the intensity of use of private television in Germany has decreased on average (difference = +0.1), while there was a comparatively high increase in South America (difference = -0.41). This could indicate that private television has a different importance in South America with regard to the communication of news than it does in Germany. The use of social media such as YouTube, Twitter and music streaming platforms changed little during the crisis compared to before the crisis in both regions. Only the use of Instagram in South America (difference = -0.32) and Facebook in Germany (difference = -0.28) shows an increase. This increase could be related to the sources that the participants mentioned in the open question "What specific sources are you using now that you did not consult before the crisis?". Here, the public organizations RKI (23.1%) and newspapers (11.6%) were mentioned most frequently, but also Facebook, Telegram and Instagram (6.6%) and Twitter, YouTube and Zoom (5%) with equal frequency. T-tests also revealed that the mean values of South America and Germany differed significantly in terms of the intensity regarding the use of public organizations before the Covid-19 crisis. The analysis of media use during the crisis revealed significant differences between private and public television as well as in online communication with acquaintances and friends (see Figure 5).

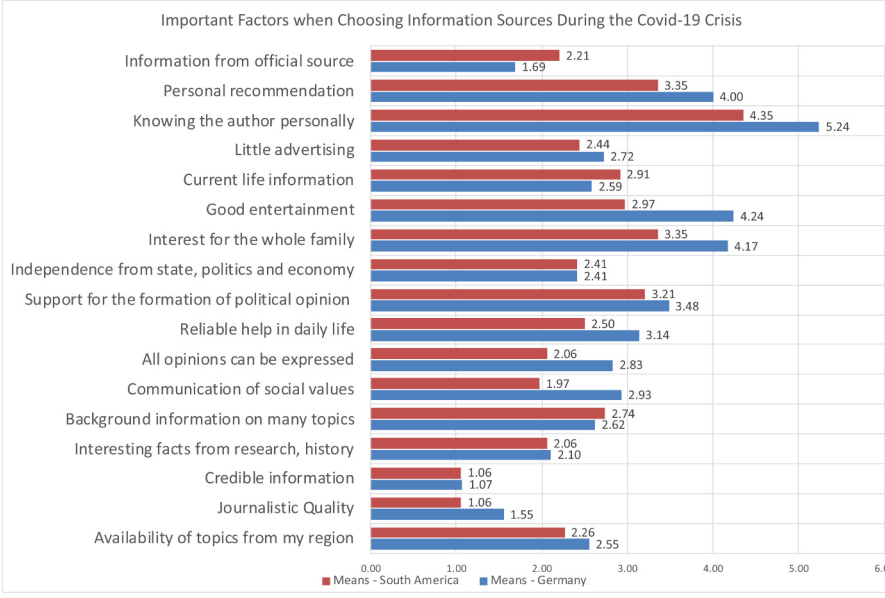

Figure 4 – Factors choosing information source

In the survey, participants were asked to rank the importance of individual factors on their choice of information sources on a scale (Level of Agreement 1: Applies to a great extent; 4: Neutral; 7: Does not apply at all). On average, the participants from Germany and South America rated journalistic quality (1.55 and 1.06) and credibility (1.07 and 1.06) as the most important criteria for selecting information sources during the crisis. Furthermore, in South America the communication of social values (1.97) was very important and in Germany the factor that the information is from official sources (1.69). It was found

that in Germany a high level of education correlates significantly with the factor of independence from the state, politics and economy and that of personal recommendation with regard to the choice of an information source. Furthermore, South America and Germany significantly differ on average in the factors of the influence of journalistic quality, communication of social values, general expression of opinion, and entertainment on the choice of information source, as determined using a T-test (see Figure 5).

Information consumption (reasons)

Most participants from Germany answered that they were looking for information to review the general situation (93.1%), to get information on exit and travel restrictions (72.4%) or on economic and social aspects (65.5%) in the context of the crisis. The participants from South America also indicated that the most frequent reasons for searching for information were to receive information about the general situation (94.1%) or about economic and social aspects of the crisis (76.5%). The third most common reason for searching for information given by participants from South America was to avoid infection (64.7%). In comparison to the German participants, only 41.4% searched for information in order to avoid infection. Furthermore, 20.6% of the South American participants searched for information to provide support to others during illness or isolation, while only 10.4% of the German participants indicated this. In general, we found that the older the respondents are, the more they searched for information on how to avoid infection.

Fake news

In the context of the Covid-19 crisis, 79.3% of the participants from Germany and 79.4% from South America had already been confronted with misinformation. In this context, WhatsApp (47.2%) and Facebook (33.7%) were named most frequently as the transmission medium for fake news. Twitter (6.7%) was also mentioned, as well as newspapers (6.7%) and Instagram, radio, television, YouTube and newspapers (all 4.5%). The majority of the participants, both from Germany (56.5%) and South America (59.3%), said that they first reacted to the fake news with doubts. 47.8% of the German participants did not believe the fake news, while 4.3% did so at the beginning. Within the South American participants, about half (51.9%) also did not believe the fake news. However, 14.8% of the South American participants believed the fake news at the beginning, about 10% more than in Germany. In South America, none of the participants rated fake news as funny, while in Germany it was 17.4%. Regarding the aspect that fake news were perceived as funny, significant differences between South America and Germany could be confirmed using a T-test. None of the participants of both groups continued to believe such news later on.

With regard to further response to misinformation, 56.5% of Germans stated that they had researched more to validate doubted statements. 52.2% discussed the content with friends or acquaintances and 43.5% ignored it. 21.7% wrote a critical comment and 8.7% forwarded the information to friends or acquaintances.

In South America, significantly fewer participants discussed the false reports they experienced (29.6%) compared to Germany (52.2%). 55.6% of the participants from South America stated that they would do further research on the truth. 51.9% ignored fake news, 29.6% discussed them with friends and acquaintances and 22.2% wrote a critical comment. Only 3.7% said they sent the news to their friends and acquaintances.

Results overview

The following table summarizes the significant differences found between Germany and South America. T-tests were conducted to check if the sample is heterogeneous concerning several constructs. Here, the intensity of use of information sources

before and during the Covid-19 crisis, the factors influencing choice of information sources, as well as the reaction and behavior in the context of fake news and the general satisfaction of information provision were examined. Figure 5 lists the mean values, standard deviation and significance of the relevant results.

Variable	Germany		South America		T-test
	Mean	Std.-Deviation	Mean	Std.-Deviation	Significance
Media usage before Covid-19 crisis					
Public organization	6.03	1.546	4.79	2.1	0,009**
Media usage during Covid-19 crisis					
Private television	5.28	2.016	3.65	2.662	0,008**
Public television	2.93	2.187	1.94	1.347	0,04*
Online communication	2.93	2.103	2.09	0.965	0,05*
Important factors when choosing information sources					
Journalistic quality	1.55	0.827	1.06	0.239	0,004**
Communication of social values	2.93	1.51	1.97	1	0,005**
All opinions can be expressed	2.83	1.583	2.06	0.952	0,027*
Good entertainment	4.24	1.883	2.97	1.817	0,008**
Reaction on fake news					
Considered it as funny	1.83	0.388	2	0	0,043*
Satisfaction with the supply of information	2.52	1.43	3.73	1.79	0,005**

**p< 0.01, *p< 0.05

Figure 5 – Significant differences (media usage: (1: Daily; 2: >= 2 per week; 3: once a week; 4: >= 2 per month; 5: once a month, 6: less frequently than once a month; 7: never); Important factors: Level of Agreement 1: Applies to a great extent; 4: Neutral; 7: Does not apply at all))

Discussion & perspectives

The results of the online survey between German and Spanish speaking persons from Germany and South America respectively exhibit some differences between the two groups. Thus, this preliminary study reveals some differences in information behavior.

Regarding individual satisfaction with information provision during Covid-19, German participants are more satisfied than their counterparts. 82.8% from Germany stated that they were satisfied to very satisfied with the information supply during the crisis, while in South America they were only 42.4%.

While in Germany private television was used rarely, individuals from South America consulted it more often as an information source. Furthermore, international sources as well radio were used in average once a month and in Germany several times a month. This result might be due to a different importance and understanding of serious, official and valid sources. For example, Germany has a system of public broadcasting, that has the legal objective to make high-quality programs, supply good information and involve people in a democratic culture, while privately owned broadcasters focus on commercially attractive audience groups[31]. Further research is needed to better understand these differences. The intensity of usage of international sources increased in Germany compared to 'before Covid-19-times' while in South America no significant change could be observed. These cultural differences in information seeking and processing are in line with the study of Liu[32] who examined varieties between Americans, South Koreans and Singaporeans in their media usage. Fake news, which were described to have been mostly spread through social media in this sample, received more credibility from South American than German participants. These persons also did not react in an amused way while 17.40% of the

Germans reportedly laughed about such misinformation. Furthermore, German participants (59.2%) discussed more about fake news than South Americans (29.6%). Overall, it is critical that so many respondents were confronted with misinformation. The efforts of large platforms against problematic content are obviously not sufficient.

This study shows that the patterns of information sources selected during the crisis and the dynamics of the infodemic vary between countries. It is necessary to find reasons and relate the behavior to cultural and social phenomena. For example, the availability of quality information as well as the information literacy of the social classes largely differ and could explain the behavior. Furthermore, the emphasis of South American users to information from peers could be related to the higher level of collectivism as a cultural dimension[33]. However, this study cannot yet provide further exploration of these relationships. Qualitative research is also necessary to understand and explain different behavior patterns.

In addition, the study has also some limitations as the sample of participants (N = 98) is quite small. The results cannot be generalized to the entire population, but they still provide a first approach to a cultural comparison of information behavior during a pandemic. It is important to set a starting point to investigate the information seeking behavior and evaluation patterns of credible sources further to foster intercultural information and eHealth literacy. Only in understanding the differences, information overload and anxiety and in return fake news and conspiracy myths can be understood and fought. It seems also necessary to support users by services and tools for assessing the correctness of information. Currently, there are several initiatives for research on the verification of information, e.g. the CheckThat! Lab within CLEF[34], fake news detection tasks at FIRE[35] and a specific Health Misinformation track at TREC[36].

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[Stefan Dreisiebner; Fedra Kuttkat; Sophie März; Thomas Mandl, *Il comportamento informativo durante la pandemia da Covid-19: le differenze tra gli utenti sudamericani e tedeschi nella fruizione dei media, la loro fiducia nella fornitura delle informazioni e la gestione della disinformazione*. AIB studi, vol. 61 n. 2 (maggio/agosto 2021), p. 359-373. DOI 10.2426/aibstudi-13171]

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36 Cfr. <https://trec-health-misinfo.github.io>.