Meta-reflexivity for resilience against disinformation

Meta-reflexividad para la resiliencia contra la desinformación

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ABSTRACT

The rise of digital media contributes to fake news and disinformation being circulated on a larger scale and pace. The central aim of the work is to consider the potentials of individuals to actively respond to disinformation and fake news. In that regard, the authors rely on Archer's theoretical framework of reflexivity and its modes. It is argued that a specific mode of reflexivity, namely meta-reflexivity, can enable people to take a critical distance towards media messaging. The method involves the Reflexivity Measurement Tool (RMT) to provide an approximate assessment of one's reflexivity in terms of quantitative scores. The survey has been conducted in Slovenia on a representative national sample and path analysis is applied to identify the relationship between demographic features, media exposure, reflexivity and fact-checking. The results show how age and education affect media preferences, in terms of how frequently an individual is exposed to a particular type of media. Younger people, women and persons with tertiary education are more meta-reflexive, which contributes to their active response to disinformation. It is concluded that meta-reflexivity is essential but not sufficient to produce an active response of individuals to disinformation. Need for professional fact-checking-services and media education is discussed.

RESUMEN

El avance digital contribuye a que las noticias falsas y la desinformación aumenten en número y ritmo. El objetivo central de este trabajo es considerar el poder de las personas para responder activamente a la desinformación y noticias falsas. Para ello, los autores se basan en Archer, específicamente su propuesta teórica relacionada con la reflexividad y sus modos. Argumentamos que un modo específico de reflexividad, la meta-reflexividad, permite distanciarse críticamente de los mensajes de los medios de comunicación. El método consiste en el uso de la Herramienta de Medición de la Reflexividad (HMR) para proporcionar una evaluación aproximada de la propia reflexividad en términos de puntuaciones cuantitativas. La encuesta se ha realizado en Eslovenia sobre una muestra nacional representativa y se ha aplicado un análisis de la trayectoria para determinar la relación entre las características demográficas, la exposición a los medios de comunicación, la reflexividad y la verificación de los hechos. Los resultados muestran que la edad y la educación afectan las preferencias relacionadas con los medios, medidos en base a la frecuencia de exposición a un tipo particular de medio. Los jóvenes, las mujeres y las personas con educación terciaria son más meta-reflexivos, lo cual contribuye a que tengan una respuesta activa a la desinformación. Se concluye que la meta-reflexividad es necesaria pero no suficiente para producir una respuesta activa de los sujetos a los mensajes de los medios de comunicación. Finalmente se menciona la necesidad de tener servicios profesionales de verificación, además de programas de educación mediática.

KEYWORDS | PALABRAS CLAVE

Media literacy, reflexivity, critical thinking, fake news, disinformation, fact-checking.
Alfabetización mediática, reflexividad, pensamiento crítico, noticias falsas, desinformación, verificación.

1. Introduction

In this article, we address the increasing complexity of media communication and the ability of audiences to comprehend information in the context of the unprecedented rise of ICT development. The digital revolution has thrust us into an immense flow of information pervading all facets of our everyday lives. Surrounded by incomprehensible loads of news, images, and opinions streaming through various interconnected devices, such as tablets, smartphones, computers, and televisions, we have all been immersed in mass media abundance.

In that regard, we must never forget that what media offer us (i.e., providing news and daily information concerning various elements of our reality) is never a direct reflection of reality but a media construction (Hall et al., 2013; Strutt, 2019). News media messages and representations are reductionist in comparison to the actual reality. They can be simplified or distorted versions of reality or they can simply be wrong, fake, or even intentionally misleading. The issue of their accuracy seems to be particularly crucial in the case of news reporting, which have the purpose of carrying out an informative or interpretative function and having a guiding principle of objectivity. Their ideal mission can be, however, often called under question. One can hardly overlook the debates provoked by the impact of media on voting results in presidential elections in the US, and in the UK's Brexit referendum (Goering & Thomas, 2018).

The contemporary flood and pervasiveness of information, have accelerated the influence of the «dark side» of the media landscape referring to the current rise of fake news and disinformation. The latter media messages are, however, not a new phenomenon. A walk through the history of propaganda (Barclay, 2018; Taylor, 2003) and through the psychology of lies (DePaulo, 2018) clearly reveals that having power over the flow of messages and controlling their content are inherent parts of mass communication processes. While deliberate manipulation, censorship, and lies are commonly regarded as unethical and harmful, they are still (too) often deployed in the media landscape. Due to dependence of credibility assessment processes of news shared online on the strength of social ties between the sharer of the item and its recipient (Samuel-Arzan & Hayat, 2019), the issue of fake news and disinformation has put digital journalism and media credibility even more at stake (Lotero-Echeverri et al., 2018). Coping with disinformation has become difficult to handle, regardless of whether fake news is planned, manipulative or even unplanned - when originating from ignorance, or from a firm, even fundamentalist beliefs.

Lazer et al. (2018) identify two categories of interventions against fake news: 1) Those aimed at empowering individuals to evaluate the fake news they encounter; 2) Structural changes aimed at preventing exposure of individuals to fake news in the first instance. Our focus is on the first category. Learning how to use media and also how to participate in dynamic processes of communication and creation processes of media messages have become a necessity and an integral part of individuals' life. Media literacy is the outcome of the media education processes of teaching and learning about media (Buckingham, 2003). It refers not just to skills enabling us to use new emerging media or create online messages, but also to understanding how media works in this changing environment and to the ability to analyse and evaluate the media content (Livingstone, 2004). Furthermore, it also highlights the necessity to comprehend the intents and consequences of media messages and ability to critically analyse multiple codes (Rivera-Rogel et al., 2017).

Critical thinking is a core element of media literacy. It is the ability of individuals to use and at the same time, autonomously and critically interpret the flow, content, values and consequences of the use of various media messages.It also enables them to participate in the creation of media messages (Martens, 2010; Martens & Hobbs, 2015). Improving critical thinking and digital media literacy has thus become of strategic importance for active citizenship (European Commission , 2018: 25). Media literacy includes cognitive, emotional and social competences, and the ability to focus on creative problem solving (Hobbs, 2010; Sonck et al., 2012; Mascheroni & Murri, 2014). It is commonly argued that critical thinking empowers digital media users to interrogate the accuracy of information and to identify dated, biased, fake, or exploitative information and their sources. It can empower them to counter unfair and inaccurate representations. It can guide them to make better-informed media choices and enable them to select intelligently, although being overwhelmed by an abundance of information and services online. While exploring individuals' capabilities for critical thinking, we link the active response to media information

to Margaret Archer's theoretical framework of reflexivity and its modes (Archer, 2007; 2012). In her opinion, contemporary society is increasingly morphogenetic, due to the mutual reinforcement of structure and culture through positive feedback (Archer, 2012). The lack of synchrony between both levels is contributing to the emerging social and cultural complexity, which is producing even more variety, making it increasingly difficult for people to comprehend it. Media are a constituent of the social environment, which has become imbued with a morphogenetic impetus. They reflect the institutional and ideational transformations and are also contributing to the tensions between the structural and cultural domains. As Archer (2012: 37) says, «to encounter news and opinions wildly at variance with those of TV family members, to explore forbidden and even to extend it and to assume one or many cyber personas, these surely beat the children's encyclopaedias that had been the baby boomer' resort for flat information».

The morphogenetic impetus, however, does not merely expand the variety of meanings to select but also encourage people to develop skills to act upon them properly. A critical role in that regard is played by reflexivity, which Archer defines as «the regular exercise of the mental ability, shared by all normal people, to consider themselves in relation to their (social) contexts and vice versa » (Archer, 2007: 4). It enables people to actively respond to the social environment, including the media landscape. Reflexivity takes place through inner dialogue, which enables people to define their concerns, develop projects and establish practices.

The media are a part of the social context, which can trigger our inner world and enhance our internal conversation. As Archer (2012) says, due to new situational contexts and their complexity, we are placed in a variety of contested material and ideational settings, which are encouraging us to determine our own role and position in society. However, it is not just reflexivity as such, which enables us to actively respond to the social environment and media, respectively, but especially its modes. They are crucial in defining how can we become an active agent and critically re-evaluate the social context in terms of being able to cope with «digital distraction» (Carrigan, 2017) provided by the flood of media information.

Based on her qualitative research insights, Archer (2007) recognised four different modes of reflexivity. The first is a communicative reflexivity, which needs a confirmation from others in order to lead to action, and it is also associated with traditional society, as it is collectivistic towards the social. The second is an autonomous reflexivity, which is self-contained and directly leads to action. It is seen as a product of modern society. The third is a meta-reflexivity resulting from late-modern condition, which enables individuals to critically evaluate previous inner dialogues and to be critical about their effective action. In addition, there is also a fractured mode, which does not lead to any purposive action and causes personal distress and disorientation.

As Archer (2012) says, there is only one mode of reflexivity that enables us to properly respond to the ever-changing, morphogenetic society, i.e. meta-reflexivity. Therefore, we argue that only that mode of reflexivity can enable us to take a critical distance towards the media content and its reporting. Meta-reflexivity is imbued with the search for the relative autonomy of the structural and the cultural domains. Those who are capable of regularly taking critical stances towards the social domain are supposed to also be more skilled in terms of media literacy. They should be more motivated to verify information available to them and to be critical towards the media content.

This has led us to propose our main research question regarding whether one's meta-reflexivity significantly contributes to one's additional checking of media content in order to strengthen resilience in the face of fake news and disinformation. Can one's reflexivity (as conceptualised by Archer) significantly contribute to responding critically to media messages and additional fact-checking of media content in order to test for fake news and disinformation? We hypothesise that someone who is predominantly meta-reflexive will also be more able to critically evaluate the media landscape.

2. Material and methods

Our research applies the Reflexivity Measurement Tool (RMT) intended to provide an approximate assessment of one's reflexivity in terms of quantitative scores for different reflexivity modes. The tool's validity and reliability have been tested in our previous qualitative and quantitative research (Golob & Makarovi , 2018) and later also applied in a national representative sample research study (Golob &

Makarovi , 2019). The first quantitative instrument to measure reflexivity was the Internal Conversation Indicator (ICONI), developed by Archer (2007) based directly on her theory and previous qualitative research. The RMT (Golob & Makarovi , 2018; 2019) applied in this research is the further adaptation of Archer's indicator, after taking into account the critical responses to the original ICONI (Meriton, 2016; Dyke et al., 2012) and the work by Porpora and Shumar (2010). Drawing from ICONI and based on the contribution by Porpora and Shumar (2010), the reflexivity level is measured through the responses to the questions asking: «During the last year, how often did you» about the following items indicating the intensity of internal conversation: plan your future; rehearse what you would say in an important conversation; imagine the best and worst consequences of a major decision; review a conversation that ended badly; clarify thoughts about some issue, person or problem (Porpora & Shumar, 2010).

The reflexivity level is thus the sum of the Likert scale responses to these five items calculated by the following formula:

$$R = r_1 + r_2 + r_3 + r_4 + r_5 \qquad (1)$$

where the values from to represent the answers to each of the five items above on the Likert scales, with each of them ranging from zero (never) to four (all the time), and R indicates the reflexivity level. Reflexivity level R as the sum of the Likert scores for all of the five items previously identified by Archer (2007), Porpora and Shumar (2010) thus ranges from zero (no reflexivity) to 20 (full reflexivity).

However, while this measurement of the intensity of persons' internal dialogues provides an indication of the reflexivity level, it tells us nothing about the reflexivity mode. It should thus be combined with an indication of a specific reflexivity mode: for the purpose of our research, this is meta-reflexivity, as we are interested in the connection between this mode and media fact-checking.

Obviously, nobody can be highly meta-reflexive without being highly reflexive: the more reflexive people are, the more intensive their meta-reflexivity can be. This should be seen as a multiplier effect: combining the intensity of internal dialogue (or the reflexivity level R) and the meta-reflexive way of thinking (Golob & Makarovi 2018; 2019). Using the RMT, we thus multiply each person's reflexivity level (R) with her/his Likert scale responses to the question: «During the last year, how often did you carefully consider the key priorities of your life and why you are doing what you are doing? » (L_{met}), ranging again from 0 (never) to 4 (all the time):

$$M_{met} = R \times L_{met} \qquad (2)$$

The value obtained through this method represents the score for the meta-reflexivity mode (M_{met}) – ranging from 0 (no meta-reflexivity) to 80 (full meta-reflexivity).

The survey sample used in our research has been drawn from the electronic version of the Slovenian national level phonebook based on random sampling, stratified in terms of all ten Slovenian statistical regions to provide proper regional representation. Eighty per cent of the sample has been drawn from a list of mobile phone users, and 20 per cent from a list of fixed-line phone users.

The survey was conducted on 5-8 March 2018 using the Computer-Aided Telephone Interviews (CATI), by trained interviewers, coordinated by Parsifal SC, LLC, a spin-off company of the School of Advanced Social Studies, Slovenia, specialised in quantitative and qualitative public opinion polls and market research. The obtained national representative sample consists of 715 adults and enables us (in terms of its size and the way it has been selected and post-stratified) to draw statistical inferences regarding the Slovenian national population.

To provide consistency within the obtained sample with the demographic structure of the general population residing in Slovenia, sampling weights were calculated using the raking method (cf. Little, 1993). Based on this, the consistency of the sample with the population was provided in terms of gender, education, settlement type, and age, using the Register-based Census 2011 of the Statistical Office of the Republic of Slovenia (2011). The demographic structure of our sample is presented in Table 1. All statistical analyses have been conducted using the Stata software (StataCorp, 2015).

Table 1. Demographic structure of the sample		
Demography	**Category**	**%**
Gender	Male	50.0
	Female	50.0
Age (mean = 49.9; std. dev. = 16.7)	18-34	22.3
	35-54	38.0
	55-	39.8
Education	Primary or less	16.8
	Vocational	24.2
	Secondary	35.6
	Tertiary	23.4

Note. Golob and Makarovič, 2019; Original survey, own calculations.

3. Results

First, we have investigated the patterns in terms of exposure to different types of media. The survey respondents were thus asked to evaluate their frequency of using particular types of media on a Likert scale ranging from 1 (never) to 5 (every day). The results presented in Table 2 indicate that TV is still by far the most popular medium, watched by more than 93% of the respondents, while 44% of them watch TV every day. Printed media, in contrast, are the least used: they are never used by more than one third of our respondents and used daily by less than 16% of the respondents. The greatest variety can be observed regarding the web media portals, with one third never using them and more than one quarter using them daily.

Table 2. Exposure to different media				
Can you please evaluate with a grade from 1 to 5 how often you follow particular media or their content, where 1 means never and 5 means every day?	**Mean**	**Standard deviation**	**% of answers 1 (never)**	**% of answers 5 (every day)**
TV	3.78	1.31	6.70	44.08
Radio	3.36	1.49	16.32	34.21
Web	2.91	1.62	33.01	26.32
Press	2.46	1.43	34.70	15.57

Note. Original survey, own calculations.

In terms of reflexivity, the survey has indicated a roughly normal distribution of reflexivity levels among the general population, with the mean reflexivity level (R) of 10.5 (on the scale from 0 to 20) and the mean meta-reflexivity score (M_{met}) of 30.8 (on the scale from 0 to 80).

In the survey questionnaire, we verified the participants' active agency in fact-checking by asking the question regarding doubt and additional checking regarding the information found in the media (see the results in Table 3). While some doubt in the media content is expressed by more than 90 per cent of the Slovenian adults, according to our survey, actually checking the content through alternative sources is less common; thus, 55 percent of Slovenian adults never look for an alternative source, even when they have doubts about the accuracy of certain information. Less than 15 percent of the survey respondents claimed that they "often doubt information found in a particular media and check it through an additional source", which can be seen as an only proper level of active agency in terms of fact-checking.

Table 3. Resilience to the fake news: fact-checking	
'How often do you doubt information found in a particular media and then check it through an additional source?'	**Percentage**
Never doubt	9.62
Sometimes doubt, never check	44.44
Sometimes doubt and check	31.28
Often doubt and check	14.66
Total	100.00

Note. Original survey, own calculations.

Based on our central research question, we proceeded to check the impact of meta-reflexivity on fact-checking, specifically to often being in doubt and checking media information through an additional source. While doing this, however, we also controlled for the effects of other potential factors, namely:

1) Individuals' demographic features that also reflect their structural positions, opportunities, and deprivations in terms of gender, educational level, and age.

2) The extent to which the individuals are exposed to a particular type of media, namely TV, radio, daily press, and online sources (all on the scale from 1 to 5).

In addition, we need to consider the potential effects of the demographic features to the media preferences as well as the potential effects of gender, age, and education to meta-reflexivity already highlighted in the previous studies (Caetano, 2015; Akram & Hogan, 2015; Golob & Makarovi , 2019).

This implies the need for an explanatory statistical model that involves not only independent and dependent variables in terms of regression, but a more complex model that also involves a set of potential intervening variables between the exogenous demographic variables and the dependent binary variable, distinguishing those who often doubt and check the media information from the rest. Our study is thus conducted in terms of path analysis with the logit link to the final (binary) dependent variable, approximately indicating the proper level of active agency in terms of frequent doubt and fact-checking of media information (variable FullCheck).

Our final path analysis model, presented in Figure 1, only includes those relations between the variables (in terms of (non-standardised) coefficients) that have turned out to be statistically significant.

Figure 1. The path analysis model of the factors affecting frequent doubt and fact-checking in the media
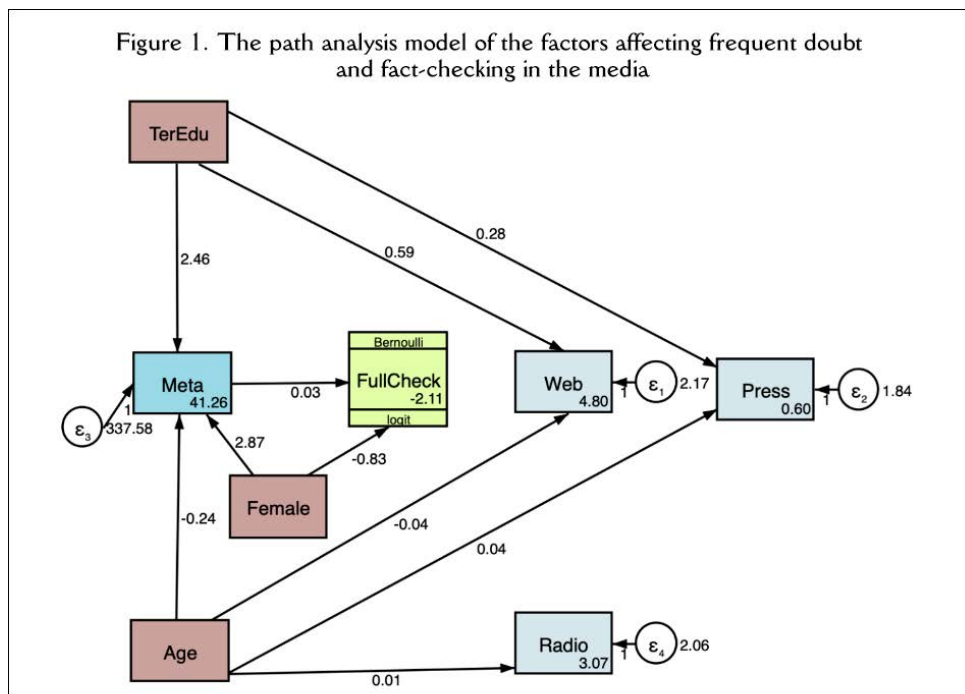
Note. Original survey, own calculations.

First, we should mention the effects of structural positions in terms of gender (dichotomous variable Female), tertiary education (dichotomous variable TerEdu) and age (variable Age) to individuals' meta-reflexivity, which is consistent with the findings from previous research (Golob & Makarovi , 2019). While meta-reflexivity decreases with age, with the younger generations being more meta-reflexive, it is higher among women and those with tertiary education.

Age and education also affect media preferences, in terms of how frequently an individual is exposed to a particular type of media. The older people are, the more likely they are to listen to the radio and read the daily press, and the less likely they are to use the online sources. Moreover, people with tertiary education use both the daily press and the web-based media more often, even when controlling for their age. TV, in contrast, seems to be a "universal" medium, unaffected by age, educational level, or gender.

When it comes to the factors directly affecting frequent checking media information through other sources, an important finding is which factors *cannot* be confirmed in statistical terms. The media type

turns out to be irrelevant in this regard: the frequency of using a particular media type has no statistically demonstrable effects on checking the accuracy of information in the media. More interestingly, even tertiary education as such has no direct effect on it. Instead of affecting fact-checking in the media directly, tertiary education only functions indirectly, through higher meta-reflexivity: persons with tertiary education are more likely to be meta-reflexive, and persons with higher meta-reflexivity are more likely to check media information frequently. The effect of gender is more ambivalent. While women are more meta-reflexive than men, they are still less likely than men to frequently check the accuracy information in the media.

4. Discussion and conclusion

Information provided by mass media, the stories they tell, and their representations, offer selective information about the world. The media play an essential function of interpretation that helps us to understand, visualise, and value the events, persons or objects that they describe. Due to the rise of digital media, there is a flood of messages conveyed through social media, blogs, sharing networks, social news, and similar. However, it is the lack of accountability, quality, and accuracy assurance tools of the messages that leads to the manipulative uses of communication infrastructures, which is thus further harnessed to produce, circulate, and amplify disinformation on a larger scale than before. One can see that this often occurs in new and unexpected ways, which are still poorly mapped and understood (European Commission, 2018).

A common way of countering the spread and harmful effects of fake news and other forms of disinformation are initiatives that help create resilience among citizens and empower the various actors impacted. Examples include initiatives to influence 'findability', privileging credible content in ranking algorithms, initiatives to identify and document disinformation sources, policies aimed at ensuring an enabling environment for news media and professional journalism, as well as investments in media and information literacy that would build resilience among people (European Commission, 2018). Fact-checking has become a necessity in the current digital environment and this vital function aiming at sustaining the credibility of information shared in digital environments can be performed by various stakeholders including independent source and fact-checkers from civil society or interested businesses as well as people, members of the audience themselves.

A growing need for developing resilience to negative phenomena produced by the media landscape, such as disinformation, hate speech, and fake news, has led to growing support of efforts aimed at improving critical thinking and digital media literacy, including training actions and the provision of tools to help users identify disinformation. The goal of such activities is to empower people to make informed decisions and take an active role in society.

It is assumed that media literacy, also relying on critical thinking capabilities of digitally literate individuals, will ensure that the digital information ecosystem can be trustworthy. The Higher-Level Expert Group on Fake News and Disinformation stresses that media literacy is a critical action line as a response to disinformation because it can empower individual users, and mass empowerment of users will lead to greater social resilience against disinformation and perhaps other disorders of the information age (European Commission, 2018).

The purpose of our research has been to test the impact of reflexivity on the critical assessment of media content and the actual fact-checking by the media audience. Based on our research findings, we can see that critical thinking, and consequently also possibilities for media literacy, is tightly interwoven with the reflexive capacities of individuals. Using Archer's modes of reflexivity (Archer, 2007; 2012), it seems that only the specific mode of reflexivity, namely meta-reflexivity, can enable the media audience to take a critical distance towards media messaging and support analysis, evaluation, and reflection of media messages. *According to Archer (2007), meta-reflexive people* are critically reflexive about their own internal conversations and also critical about the prospects of effective action in society.

Our research shows that meta-reflexivity significantly increases the probabilty of consistent fact-checking even when one controls for the effects of gender, age and education. Our findings also show that critical thinking and reflexive capacities are unequally distributed among the population. In addition to the effect of age and education, one can notice considerable differences among the population in terms

of gender, which call for specific education strategies in that field, as those differences are far from being straightforward. While being equipped with higher meta-reflexivity, women's structural deprivation might give them fewer opportunities (perhaps in terms of available time) to make frequent additional checks of media content. Previous ethnographic studies (Gill, 2007) on practices of media use in everyday life have shown that women's viewing of media in domestic spaces has traditionally been more distracted when compared to men. The reason for that can be found in different perceptions of home and domestic life, which have historically different meanings for each gender. Women have often lacked time and motivation to regularly and attentively check media content due to their specific position within the family structure and the expectations and time-demands placed upon them (Gill, 2007). They are also profoundly torn between career and domestic lives.

Recent data have shown that women were found to do 2.6 times the amount of unpaid care and domestic work that men do (UN Women, 2018). This also has a certain impact on their reflexivity modes. Previous studies have seen women as 'reflexivity losers' (McNay, 1999; Adkins, 2003), lacking the positions of 'reflexive authority' (Adkins, 2003; Adams, 2006: 519). Similarly, it has been argued that while women are more often meta-reflexive, they are also more fractured (Golob & Makarovi , 2018). Even in the current expansion of technological devices and internet access, there are still rooted causes of the digital gender divide pointing to inherent biases in socio-cultural norms (OECD, 2018a; OECD, 2018b; Hilbert, 2011; Cooper, 2006). Our findings, similar to many recent research on gender equality and media (see for example Prendes-Espinosa et al., 2020; Regueira et al., 2020; García-Ramos et al., 2020) indicate the promotion of gender equality and women's empowerment through the media and its integration into processes of media education can reduce gender inequality.

Meta-reflexivity has become a dominant mode reflecting the individuals' responses to the rising morphogenetic impetus of structural and cultural domain (Archer, 2012; Golob & Makarovi , 2018). However, (meta-)reflexivity is about asking questions and developing a critical stance but it does not guarantee actual fact-checking action. Thus, the active agency of the media fact-checking, in contrast, remains much scarcer. This is consistent with the fact that our path analysis model only explains seven per cent of the total variance of the dependent variable. Besides, as indicated by our research –meta-reflexivity itself is unevenly distributed among the population– with lower reflexivity scores among the elderly and the less educated. Therefore, we claim that meta-reflexivity is essential for the fact-checking but it is not sufficient to deal with all the problems of fake news and other forms of disinformation.

Consequently, we see that current educational efforts to develop the cognitive, emotional, and social competences needed to navigate digital media reality, with core competences being the ability to use, the ability to analyse, evaluate and reflect on the media messages, and the ability to create and focus on creative problem solving, may not be enough for individuals to take actual action themselves. So, when dealing with the problem of fake news and disinformation, it is important to further support organised professional fact-checkers in addition to cultivating critical thinking and acting as a result of it. Offering transparent and ethically guided plural fact-checking services to people and educating them on their use may have a more significant impact on building resilience towards fake news and disinformation compared to the expectation that masses of meta-reflective people are empowered enough to deal with fake news and disinformation autonomously.

It is essential to motivate civic organisations and the media industry to increase online transparency and protect citizens, to strengthen their ability to detect and expose disinformation. Online platforms, advertisers and the media industry have a crucial role to play in amplifying, targeting, and spreading disinformation messages of malicious actors, and their cooperaton with professional independent fact-checkers and researchers can detect and flag disinformation and make fact-checkers content more visible to the audiences. Their services should be easy to use in order not to exclude large parts of the population that do not have the knowledge, skills, or time to participate in the quest for the truth in digital messages.

In such circumstances, there is a need to include contents in media education courses, with the aim of creating not just a critical thinking process but also action in the form of a habit of fact-checking and using fact-checking services. Both formal educational systems as well as informal training should strongly support individuals to be critical users of digital sevices themselves, conscious of digital media circumstances in a

post-truth world (Peters et al., 2018), but also raise the awareness of the critical role that professional fact-checkers play in society, present their services to users, and deliver concrete know-how on how to use them. As fake news and disinformation affect everyone, educational activities targeting very diverse groups of people (considering various digital divides according to age, gender, education or social circumstances) may have a greater impact, if they are tailored to the particular needs and circumstances of a specific group and delivered in a timely manner. Obviously, the exact effects of such actions are beyond the scope of this study and would clearly require further research.

The media landscape changes very quickly, so educational efforts should follow at a similar pace. When developing media education courses and training, especially with activities aiming at fostering reflexivity and critical thinking skills, the research results of our survey can be utilised. When considering demographic factors affecting meta-reflexivity, we have found that meta-reflexivity decreases with age. Younger generations are more meta-reflexive, as are women and those with tertiary education. Persons with tertiary education are more likely to be meta-reflexive, and persons with higher meta-reflexivity are more likely to check media information frequently. While women are more meta-reflexive than men, they are still less likely than men to frequently check for the accuracy of information. However, our results also show that meta-reflexivity does not automatically create the active responses from individuals. People that develop critical thinking skills may even develop fractured reflexivity: internal conversations that cannot lead to purposeful courses of action but only intensify personal distress and disorientation. Further research on factors determining reflexivity and action in digital environment and integration of such knowledge into media education projects of various stakeholders (schools, training centres, civil society, parents) is required to meaningfully support people to develop the media literacy skills needed for socially smart and beneficial ways of using media.

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