Media
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About the Journal

Media Literacy and Academic Research is a scientific journal focused on the academic reflection of media and information literacy issues, media education, critical thinking, digital media and new trends in related areas of media and communication studies. The journal is devoted to addressing contemporary issues and future developments related to the interdisciplinary academic discussion, the results of empirical research and the mutual interaction of expertise in media and information studies, media education as well as their sociological, psychological, political, linguistic and technological aspects.

Media Literacy and Academic Research is a double-blind peer-reviewed journal published twice a year (since April 2022 published only online). The journal is international and interdisciplinary, inviting contributions from across the globe and from various academic disciplines of social sciences. It focuses on theoretical and empirical studies, research results, as well as related to the new trends, practices and other academic a research areas. Also encouraged are literature reviews, innovative initiatives, best practices in online teaching, institutional policies, standards and assessment. The Journal welcomes the submission of manuscripts that meet the general criteria of significance and scientific excellence. *Media Literacy and Academic Research* welcomes article submissions and does not charge a publication fee.

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The members of the journal´s Editorial Board and Advisory Board are members of the International Communication Association, International Association for Media Education, European Communication Research and Education Association, UNESCO-UNAOC UNITWIN Network for Media and Information Literacy, European Association for Viewers Interests, The Slovak EU KidsOnline Team and AlfaMed (Euro-American Inter-University Research Network on Media Literacy for Citizenship).

Contact and Distribution

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In the current media environment, characterized by a rapid increase in information and easily accessible content, the ability to actively and critically listen becomes an integral part of media literacy. Critical listening is closely interconnected with critical thinking, the essence of which is the ability to assess, analyse and synthesize information based on evidence, not on first impressions. Critical listening transfers this ability to the field of oral interpersonal and media communication: it enables people to consciously receive the information they hear, to analyse its content, language, and the non-verbal expressions in the speaker's voice or their body language. It helps the listeners to distinguish whether the speaker's intention is to inform, entertain, persuade or manipulate, and whether and to what extent they can trust the speaker. Nowadays, when many people draw information mainly from audiovisual sources, the skill of critical listening is essential.

Unlike ordinary listening, critical listening involves focused attention and analytical processing of information. It means being fully present and focused, but at the same time also sceptical and ready to ask questions like: What are the intentions of the speaker? What words and phrases do they use? What is the tone of their voice and the speed of their speech? Does their body language correspond with what they are saying? Do their words and gestures inspire confidence in me? Do they use reliable facts? These and other similar questions lead listeners to actively engage in communication, whether listening to a lecture, report, podcast or interview. They also allow listeners to identify inaccuracies, emotional appeals, hidden intentions and focus on the essence of what people are hearing. Critical listening skills are invaluable especially when watching programs that are enriched with subtext and hidden meaning, such as interviews with public officials, political debates, election campaigns, podcasts, and online news platforms. It also enables consumers to identify persuasive tactics in advertising and marketing, such as misleading claims or pressure to buy products through appeals to fear or social status.

Critical listening not only promotes media literacy, but also develops a person's personality. In critical listening, one learns not to judge superficially, but to examine information, tone of voice, body language and the context of communication in depth. At a time when society is often polarized and influenced by a large amount of conflicting information, critical listening skills allow individuals to maintain objectivity.

Developing critical listening, however, is not without its challenges. The cognitive and emotional demands that this skill requires can be tiring and exhausting, especially in situations where one is exposed to large amounts of information. Moreover, critical listening often disrupts established patterns of thinking, which can lead to unpleasant emotional reactions or even doubts about one's own beliefs. Therefore, along with the conscious development of this skill, it is necessary to simultaneously build internal resistance to information that may contradict previous opinions.

We hope that the ability to critically receive information will also be supported by the latest issue of the Media Literacy and Academic Research journal, which continues its focus on dealing with current topics in the field of media literacy. In it you will find 15 studies covering, but not limited to topics such as empathic listening, education, the opinions of young people, AI, gatekeeping, and understanding media texts.

Pleasant reading!

Oľga Škvareninová

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Studies

Nicoleta Corbu, Raluca Buturoiu, Mădălina Boțan, Valeriu Frunzaru

What Young People Know and Think They Know about Politics: Factors Influencing Political Knowledge among Romanian First-Time Voters

ABSTRACT

As they approach voting age, young people aged 17 to 19 years old are at a significant turning point in their political development. In this formative stage, their perceptions and understanding of the political landscape depend, among other things, on the diversity of information sources and content to which they are exposed to on a daily basis. In such a context, political knowledge plays a key role in informed decision-making for first-time voters. However, many young people tend to overestimate their levels of political knowledge, a phenomenon explained by the Dunning-Kruger effect. This study examines factors influencing both factual and perceived political knowledge among Romanian high school students (N=519). The main findings reveal a significant discrepancy between the actual political knowledge of young people and their perceived understanding of political matters. Political efficacy (the belief in one's ability to understand and engage in politics) proves to be a strong predictor of both factual and perceived political knowledge. Those with high levels of political efficacy are not only more informed but also believe they know more about politics than their peers. Furthermore, results show that young people who believe they know more than their peers about political affairs consume more mainstream media news, but no other correlation of political knowledge with news consumption is significant. Additionally, while male students perceive themselves as more knowledgeable than females, no significant gender differences in factual knowledge were observed. These findings highlight the need for educational strategies to improve both political knowledge and efficacy, contributing to a more informed and participatory youth electorate in Romania.

KEY WORDS

Civic Attitudes. Dunning-Kruger Effect. Political Efficacy. Political Knowledge. Young People.

1 Introduction

Political knowledge is a powerful predictor of political participation (Grönlund & Milner, 2006). In other terms, the more individuals know about politics, the higher the chances that they actively participate in politics-related actions. Furthermore, what citizens know about the political system and its participants is a central aspect of informed voting, and is key for liberal democracies to work properly (Memoli, 2011). Extant literature indicates variations of political knowledge based on socio-demographics, such as gender (e.g., Fraile, 2014; Verba et al., 1997), education (Persson, 2015), or age (Quintelier, 2007; Tambe & Kopacheva, 2024). For example, one of the most robust findings in the study of political behaviour is that men score higher than women in measures of political knowledge (Dow, 2009). At the same time, higher levels of education result in higher levels of political knowledge among people (Persson, 2015). Furthermore, research suggests that younger generations lack some of the important resources that promote political participation, including knowledge, cognitive skills, money, time, abilities, and social contacts. As a result, they tend to participate less in formal politics (Owen et al., 2011; Verba et al., 1995). Compared with their older counterparts, young people aged 18-25 were found to be significantly less engaged in electoral activities (Quintelier, 2007). As a consequence, they are more apathetic and, thus, less likely to get engaged in any form of political participation, including voting (Owen et al., 2011). On the other hand, due to the technological advance and the rise of digital platforms, different forms of political engagement have emerged (Malafaia et al., 2021; Sloam, 2016). Nowadays young people can easily generate political content and further distribute it to networks of friends or to larger communities.

How digital political participation is enhanced by means of political knowledge is largely underexplored, as are the covariates of political knowledge among first-time voters. This category is special for two reasons. First, it is because they have rather limited levels of political knowledge and, in turn, when developing voting intentions, for example, they might be highly influenced by interpersonal discussions with both parents and friends (Ekström & Östman, 2013; Zukin et al., 2006). Second, they lack serious previous exposure to political messages and might develop independent thinking about politics by following content on social media (Pasek et al., 2006).

This article seeks to investigate the main covariates of political knowledge among Romanian adolescents (future first-time voters) aged 17 to 19 years old. In the context in which several studies describe young people as being less and less interested in politics, and lacking political knowledge, this article aims at unveiling the main factors that account for different levels of political knowledge among Romanian youth. Our focus is not only on determining covariates of factual political knowledge (i.e., what people really know about politics), but also on analyzing factors accounting for perceived levels of political knowledge (i.e., what people perceive they know about politics, compared with other people).

There are multiple reasons that account for this particular case study. First, most Western democracies have reported decreased political participation (Xenos & Bennett, 2007; Norris, 2004), while young people are especially pointed to as being a problematic group (Biesta et al., 2009; Harris et al., 2010), mainly due to their low levels of political knowledge (e.g., Meirick & Wackman, 2004). However, little empirical evidence exists on the East-European countries, and more specifically in the Romanian context (for exceptions, see, e.g., Gherghina, 2010; Gherghina & Rusu, 2021). Furthermore, the existing research dedicated to political knowledge among Romanian youth is related to a peak-event period (i.e., the presidential campaigns) (Gherghina & Rusu, 2021) and does not account for general levels of political knowledge among young people which might, then, explain several political attitudes and behaviours within Romanian society as a whole. Second, another reason that makes this an interesting case study is related to a general low level of turnout among Romanian youth, which might be significantly related to their levels of political knowledge as well (based on the idea that knowledge precedes any type of action – in this case, going to vote). According to a study conducted by the Romanian

Youth Council (2019), 39.48% young people between 18 and 35 years old participated in the elections for the Romanian President in November 2019 and 43.2% in the elections for the European Parliament in May 2019, compared to only 31.48% in 2016 in the elections for the Romanian Parliament. However, only 25.9% of young people participated in the parliamentary elections in December 2020.

Last, but not least, lower levels of political knowledge might not mean disinterest in politics, but, instead, that young people are very dependent on information from other sources, such as trusted adults, entertainment, and social media (Marchi, 2012; Sveningsson, 2015), and thus, that they do not have the chance to be exposed to political-related information. In this particular context, we seem to face a paradox. On the one hand, young people live in information-rich environments, with many available media sources and content about politics, which may result in higher levels of political knowledge. On the other, they experience newer patterns of news media consumption (preference for entertainment, while being selectively exposed to political news or completely avoiding it) (see also, Powell et al., 2021; Prior, 2005), which, together with the algorithms' curation on social media (Fouquaert & Mechant, 2021) result in less and less exposure to information about politics. Furthermore, this paradox may be linked to what researchers identify as different forms of participation. Although young people might not engage in political contexts as their older counterparts do, it does not imply they are less involved; rather, it suggests they have a different pattern of political participation (Guzmán Grassi et al., 2024). In this context, this article seeks to explore the main covariates of political knowledge among Romanian youth, in an attempt to shed light on the key aspects related to the democratic process.

2 Literature Review

2.1 Younger Generations and Political Knowledge

Political knowledge, largely defined as citizens' ability to answer factual questions about politics, is a central concept in political research, and has received constant scholarly attention in the past decades (e.g., Moeller & de Vreese, 2019; de Zúñiga et al., 2021). From a normative point of view, scholars have demonstrated that citizens who are more knowledgeable hold consistent political views and participate more in political activities (Galston, 2001). Therefore, political knowledge acquisition is a long-term goal of political scientists (for an overview see Carpini & Keeter, 1996).

Various studies (e.g., Anson, 2018; Dunning, 2011; Kruger & Dunning, 1999) indicate that people tend to think of themselves as being more politically knowledgeable than they really are. This relates to a well-known effect, studied in social psychology and tested more recently in political research – the *Dunning-Kruger effect* – which refers in short to individuals with low levels of competence who judge themselves to be better achievers than they really are, while those with high levels of competence underestimate their excellence (Kruger & Dunning, 1999).

The Dunning-Kruger effect occurs because individuals vary in their awareness of 'known unknowns' (which lays within an individual's awareness) and 'unknown unknowns' (concepts, skills, or experiences that individuals are unaware of) (Anson, 2018). Consequently, unprepared or ignorant people are unaware of the extent of their ignorance or their lack of skills (Everson & Tobias, 1998). This phenomenon described as a 'double burden of incompetence' (Dunning, 2011) means that low achievers often overestimate their own performance. A related aspect refers to the reduced capability of such low-performing individuals to rate and compare themselves with peers (Krajc & Ortmann, 2008). Other studies have demonstrated that individuals' overconfident self-assessments are a reality and not a mere product of how statistical tests are run or of which knowledge scales are applied (Schlösser et al., 2013).

Furthermore, empirical evidence confirms a Dunning-Kruger effect existing in the realm of political knowledge (Anson, 2018; Schlösser et al., 2013). This phenomenon has serious consequences for political knowledge in general, because it influences, for instance, the perceived utility of engaging in political discussion (David, 2009) or the chances of adopting extreme positions in terms of ideology (Ortoleva & Snowberg, 2015). Despite these potentially important consequences, researchers in social sciences have only occasionally (e.g., Leeper & Slothuus, 2014) examined the subject and have rarely tested the way overconfidence affects political knowledge and the assessments of political proficiency among young people. Furthermore, no existing study of political knowledge, to our knowledge, has appraised how adolescents in particular relate to it from the perspective of the Dunning-Kruger framework. Some extant research designs (Anson, 2018) have examined how the Dunning-Kruger effect conditions citizens' perceptions of political knowledgeability in general, without further investigation of how this affects younger generations, which traditionally have a lower interest in politics (de Zúñiga et al., 2021; Moeller & de Vreese, 2019; Schlösser et al., 2013) and, as shown by recent research (Castro et al., 2022), different patterns of consuming political news and media in general.

Overestimation, in which individuals assess their performance on a task, is at the core of the Dunning-Kruger thesis, which holds that top performers on tasks rate themselves as lower achieving than they should, while the low achievers overestimate their performance (Dunning et al., 2004). The majority of the social psychology studies dedicated to overconfidence have sought to measure it on objective task performance, focusing largely on self-evaluation (for an overview, see Schlösser et al., 2013). Some extant research designs have examined political overconfidence as a predictor of ideological extremeness and strength of partisanship in general (Ortoleva & Snowberg, 2015). Additionally, when asked to report their performance relative to their peers on a political knowledge battery, low achievers consistently rank themselves as above average (Sheldon et al., 2014).

Based on such findings, we should expect the overestimation component of the Dunning-Kruger effect to extend to adolescents' assessments regarding political knowledge. Kruger and Dunning (1999) posit that when respondents achieve extremely low results on a knowledge battery, they will also be less likely to evaluate their peers correctly due to their complete lack of political sophistication. Such low-achieving subjects will be unable to correctly place the performance of others because they cannot recognize when peer performance is of high or low quality relative to their own (Dunning, 2011). Building on these insights, we would expect young people's self-assessments of political knowledge to be desynchronised with their objective performance on the battery of questions measuring political knowledge. In this context, we posit that:

H1a. Young people estimate they know more about politics than they actually do.

Moreover, according to the Dunning-Kruger thesis, this pattern should be more prominent among those with low levels of political knowledge. This category of young people will not only lack political knowledge, but they will also be unaware of their political ignorance, since the complexities of the political realm are unknown 'unknowns' to them. We posit, therefore, that overconfidence will affect how young people evaluate their levels of political knowledge and we expect young people performing poorly on a political knowledge task to be overconfident when self-assessing their performance. Thus, we posit that:

H1b. Young people with low levels of political knowledge estimate they know more about politics than the majority of their peers.

2.2 News Consumption and Political Knowledge

People usually turn to news media in order to learn about politics (Lecheler & de Vreese, 2017), and consequently, the news media has a significant influence on the level of political knowledge (Moeller & de Vreese, 2019). The relationship between citizens' media usage and their political knowledge has been confirmed by numerous studies, which have mainly investigated the impact of using different media or media types (Aalberg & Curran, 2012; Soroka et al., 2013) on political knowledge. Virtually, all comparative research about media effects focuses on the differential role of newspaper and TV consumption, traditional or online media news outlets, social media, or else selective media exposure in order to explore levels of political knowledge (Castro et al., 2022). More recently, research has focused on the information potential of online and social media, and has brought to light the fact that using social media for news instead of traditional outlets or news websites has null effects on political learning (Shehata & Strömbäck, 2021).

In extant literature, the idea that there might be a different pattern of influence between political knowledge and news usage among adolescents is often suggested, but empirical proof is scarce. Some authors (Moeller & de Vreese, 2019) have advanced, for instance, a model of political learning similar to a spiral, where political knowledge influences news use more than the other way round; also suggesting that news media contributes to political learning among younger and older generations in a different way. Yet, the relationship between political knowledge and news usage among adolescents needs further clarification and constant updates due to the rapidly changing patterns of media use in today's society. Against this backdrop, we hypothesise that:

H2a. Young people consuming more political news from mainstream media are more politically knowledgeable than their peers.

Extant research suggests that Romanian users, similar to Italian, Hungarian and Polish users tend to follow social media for news in greater numbers than users in the United Kingdom, Germany, Switzerland, Sweden, or Norway (Castro et al., 2022). Furthermore, other studies (Newman et al., 2018) have confirmed that people usually learn very little about political issues by following social media platforms such as Facebook. There even seems to be a negative association between following the news on Facebook and political knowledge, mainly due to an increased feeling of information overload among Facebook users (van Erkel & Van Aelst, 2021). Young people are affected by this side effect in particular, since they use online and social media the most. While recent research (Castro et al., 2022) shows that the knowledge gains from using news media vary across media types, as mentioned above, there is no study investigating the specific implications of Facebook news use versus other news media on political knowledge and their potentially different impact on political information acquisition. Filling this void is important for two main reasons. First, in reality, adolescents consume a mix of different news and news sources, with alternative platforms, such as TikTok, being the preferred media of choice, with Facebook playing an increasingly minimal role in the mix (van Erkel & Van Aelst, 2021). Second, empirical evidence shows that Facebook provides less ideologically diverse information, being more prone to disinformation and, thus, reducing political knowledge acquisition (Castro et al., 2022). As previous research has shown (e.g., Shehata & Strömbäck, 2011), when accessing high quality and diverse news, people have a better understanding of the political world and are more socially involved. In this study, we differentiate between Facebook as a source of news and various other social media, as in Romania, Facebook is barely even on adolescents' radar in general, let alone used as a consistent source for political news. Statistics (Statista Research Department, 2023) show that late teenagers in their early 20s accounted only for a fifth of all Facebook users in the country, most Facebook users in Romania being either between 25 and 34 years old (21.7%), or over 65 years old (7.5%). Building on such insights, we predict that:

H2b. Young people consuming more political news from social media (except Facebook) are less politically knowledgeable than their peers.
H2c. Young people consuming more political news from Facebook are less politically knowledgeable than their peers.

Following the same line of reasoning, young people are also likely to rely on media cues to evaluate not only their own political knowledge, but also the political expertise of their peers. Research shows that young people are more prone to overestimation and attribution errors when crystalizing their opinions based solely on information received from the media, without further critical processing of the media content to which they have been exposed (Anson, 2018; Fraile & Iyengar, 2014). Therefore, we also expect the increased consumption of political news to enhance the Dunning-Kruger effect on political knowledge, possibly due to the inflated sense of political proficiency an information-abundant media diet might offer. Along these lines, we consider that exposure to political news will have an impact on self-reported political knowledgeability, and predict that:

H2d. Young people consuming more political news (from both mainstream or social media) believe they are more politically knowledgeable than their peers.

Another vein of research in political science has explored the link between confidence in political perceptions, showing that people highly confident in their political beliefs are also more politically involved (Druckman, 2004). Recent work on the causes and consequences of political misperceptions among young people correlates them with modest political participation (Theiss-Morse & Hibbing, 2005) and generally low levels of activism and social involvement in contemporary society (Flynn et al., 2017).

Various studies have examined the predictors of political involvement and how they impact politically engaged mature or older individuals (e.g., Gottfried et al., 2016). However, few studies have tried to fill in the gaps in the political research literature by answering the question of how youth can become politically engaged (Wray-Lake, 2019). Such research suggests that young people learn more about politics not via exposure to political information, but instead by being involved in their communities and taking part in day-to-day social activities, through which they develop a sense of what it means to be a part of a community (Wray-Lake, 2019).

It has also been empirically proven that adolescents who have a base of political knowledge are more inclined to engage in political and civic activities than those who do not (Theiss-Morse & Hibbing, 2005). There is a clear, positive relationship between knowledge and contacting, voting, campaign engagement, community engagement, digital engagement, and activism (Moeller & de Vreese, 2019). In addition to this, research dedicated to youth political participation has found that active participation requires individuals to believe in their own ability to influence the course of politics, in other words, to feel politically efficacious. The firm belief in making a difference is, in general, conducive to developing participatory inclinations amongst young people (Sperber et al., 2022). Additionally, empirical studies indicate that adolescents become more motivated to participate in politics if their levels of political self-efficacy are high (Grasso & Giugni, 2021; Reichert, 2016). The relationship between efficacy and expected participation, however, fluctuates over time, during the process of political socialization (Oser et al., 2022). Self-confidence in dealing with politics seems to increase with age, nonetheless, beliefs in the responsiveness of the political system become more pessimistic and, thus, older students have lower expectations to become actively involved in politics in adult life (Borg & Azzopardi, 2021). Based on such findings, we argue that internal political efficacy (or self-efficacy), defined as the belief in one's own competence to understand, and to participate effectively in politics (Oser et al., 2022) is key when evaluating political involvement in younger generations. Moreover, continuing this line of reasoning, we postulate that low achievers on internal political efficacy are less inclined to acquire information about politics or get politically involved, while young people more confident in their ability to decode politics are more likely to possess higher levels of political knowledge and, therefore, are more inclined to participate in political actions.

H3a. Young people exhibiting higher levels of internal political efficacy are more politically knowledgeable than their peers.

While conventional measurement of political knowledge has relied heavily on retrieval accuracy (for an overview, see Fraile & Iyengar, 2014), there has not been advanced any fine-grained measurement tool for self-reported political knowledge. To the best of our knowledge, virtually no studies are dedicated to how perceived, self-declared political knowledge impacts factual political participation or willingness to engage in political activities. However, empirical data shows that confidence in political knowledge helps information retrieval and has an overall positive impact on both knowledge and confidence (Grasso & Giugni, 2021; Sperber et al., 2022). The same findings indicate that active involvement may facilitate, but do not guarantee, informed political choices. Such findings warrant further theoretical and empirical exploration of how self-perceived or self-reported political expertise may impact factual political proficiency.

In the same line of reasoning, we predict that political efficacy is likely to play an important role in self-assessments of political knowledge. Furthermore, the Dunning-Kruger thesis holds that low achievers fail to accurately self-place due to an inability to engage in metacognitive reflection on their performance (Dunning, 2011). Hence, we should expect a pattern in which political efficacy causes overconfident self-placement to increase among young people with moderate or low levels of political knowledge. When evaluating peer performance, politically efficient young people will assess their political knowledgeability as superior to their peers.
H3b. Young people more politically efficient believe they are more politically knowledgeable than their peers.

2.3 Gender Gap in Political Knowledge

Extant literature dedicated to political knowledge has also shed light on a gender gap in terms of political proficiency. Scholars have argued either that the gender gap is real and quasi-impossible to be eliminated, or that it is an artifact of the way the concept is measured (for an overview, see Jerit & Barabas, 2017). As various studies have empirically proven, the roots of the gender gap in political knowledge are based in late adolescence (Mondak & Anderson, 2004). Statistical data indicates that young women are significantly less politically knowledgeable than young men, and the main explanation for this gap resides in how young people respond to the campaign environment. Young women are more likely to gain information in environments marked by consensus rather than conflict, and since the political environment is increasingly conflictual, this has a negative impact on political learning (Wolak & McDevitt, 2011).

Moreover, statistical data (Fortin-Rittberger, 2016) shows that institutional factors, such as electoral rules or opportunity structures, also have an impact on gender gaps in regard to political participation. In addition to this, research demonstrates that survey particularities, such as question format, content, and difficulty of questions are the most consequential where gender gaps in political knowledge are concerned (Mondak & Anderson, 2004). However, research demonstrates that knowledge gaps can be ameliorated via exposure to political information (Jerit & Barabas, 2017). While these findings are important in shedding light on how to promote political learning among young people, they are usually US or Western-Europe-centred. Building on such findings, we also want to explore if there are gender-based differences in political knowledge among Eastern-European adolescents. Furthermore, since the Romanian political environment is predominantly conflictual, with populist parties increasingly having electoral success (Hameleers et al., 2018), we believe that this might have a negative impact of political knowledge acquisition among young girls. We posit, therefore, that there is a gender gap in the sense that:
H4a. Boys are more politically knowledgeable than girls.
H4b. Boys believe they are more politically knowledgeable than girls.

Overall, this paper tries to fill the gap regarding the relationship between young people's media use, political involvement and how these variables impact how much they know or think they know about politics. We expect the Dunning-Kruger effect on political knowledge to be enhanced by low political involvement and, therefore, argue for the necessity of fostering political implication among younger generations, in order to reduce deficiencies and increase the level of political proficiency.

3 Method

3.1 Sample

For the purpose of this study, we conducted a survey on a convenience sample of Romanian high school students in the 12th grade (N=519) from six cities, 13 high schools, and 49 classes. The sample was diverse in terms of the size of the municipalities where the high school is located (ranging from less than 20,000 to more than 1,000,000 inhabitants).

The pen-and-paper, anonymous questionnaire was self-administered. We asked for informed consent for the entire class (i.e., all the students that were present in the classroom were given the pen-and-paper questionnaire; however, not all the classes are the same size, mainly because of the class location) and it was granted by the class teacher, after securing approval for the study from the high schools' principals. Since twelfth graders are aged 17 to 19 years old, an acceptable way of obtaining informed consent by Romanian University Ethics Committees and by the Quality Assurance Committee in high schools is by securing the school's approval, if the study does not tackle sensitive topics. In our sample, 39 out of the 519 were less than 18 years old. Students had the permission to opt out from the study by returning a blank questionnaire, and were instructed to do so without any consequence at any time of the completion of the survey. The researchers did not formally document the response rate, but their observations during the data collection process suggest that a very small number of students chose to opt out from the study.

The sample comprises 37% male students (63% female), with 43% of students reporting that at least one parent had completed university (this is of particular importance in this study mainly because it may help explain variations in other factors, such as children's academic success and overall development, including their levels of political knowledge, which are often linked to parental education levels).

3.2 Measures

Factual political knowledge was measured by asking participants to indicate their response to the following four questions: "Who is currently the prime minister of Romania?", "When will the next presidential elections be held in Romania?", "Which of the following countries does not belong to the North Atlantic Treaty Organization (NATO)?", and "Who is currently leading the European Commission?". Four possible answers were offered for each question. We summed the number of correct responses to create the political knowledge variable.

Perceived political knowledge (self-perceived political competence) was measured by asking participants to evaluate, on a 5-point Likert scale from 1 (*totally disagree*) to 5 (*totally agree*), the extent to which they agree that compared to most of their peers, they know a lot about political issues.

News consumption was measured by asking participants to indicate how many days in the past week they obtained the news from 11 different news media sources. The scale grouped in three factors (CFA using principal component analysis and a varimax rotation): "news consumption from mainstream media sources" (TV programs, print and online newspapers,

radio, websites of any kind – other than social media) with factor loadings ranging from .625 to .742, *a*=.640, *M*=2.09, *SD*=1.43; "news consumption from social media sources" (WhatsApp, Instagram, YouTube, TikTok) with factor loadings ranging from .740 to .867, *a*=.847, *M*=5.10, *SD*=2.10, and "news consumption from Facebook" (Facebook and Facebook messenger as a source of news) with factor loadings ranging from .866 to .896, *a*=.834, *M*=2.84, *SD*=2.45.

Political efficacy (internal dimension) was measured using three items. The first two, taken from Groskurth et al. (2021), asked participants to evaluate, on a 5-point Likert scale from 1 (*totally disagree*) to 5 (*totally agree*), the extent to which they agree with the following two assumptions: "I am good at understanding and assessing important political issues" and "I have the confidence to take active part in a discussion about political issues". The third item measured, on a 5-point Likert scale from 1 (*not at all interested*) to 5 (*very interested*) how interested young people are in politics in general. All three items grouped in one factor (CFA using principal component analysis and a varimax rotation), with factor loadings ranging from .759 to .885, *a*=.780, *M*=2.52, *SD*=.95.

We used school performance (measured in grades) and family education as control variables.

School performance was measured by asking participants to indicate the general grades they obtained in the last year. Family education was measured using a single-item dichotomous variable, with 1 meaning at least one of the parents had a university degree.

4 Results

Generally speaking, adolescents are cautious in saying they know more than their peers about politics (*M*=2.81, *SD*=.93 on a 5-point scale). However, their actual political knowledge (again on a 5-point scale, ranging from 0 to 4, with 0 meaning they did not answer any of the 4 questions about political facts correctly; 4 meaning they answered all four questions correctly) shows how little young people actually know about politics (*M*=1.26, *SD*=1.28). In fact, more than 60% of pupils could not answer more than one question about politics correctly, of which more than 35% did not answer any of the questions correctly. What is surprising, though, it that their cautious estimation does not match their actual political knowledge. In fact, people that know almost nothing about politics (did not answer any of the factual questions correctly) estimate their knowledge compared to peers as only slightly lower than those who answer 3 or 4 questions on real political facts correctly, the correlation between the two variables being actually very weak (*r*=.16, *N*=515, *p*<.01) (see Figure 1). These findings suggest a Dunning-Kruger effect among adolescents: those who know very little about politics tend to overestimate their knowledge on the matter (H1a and H1b confirmed). Conversely, adolescents who answered all four questions correctly only estimate that they know slightly more than their peers about politics.
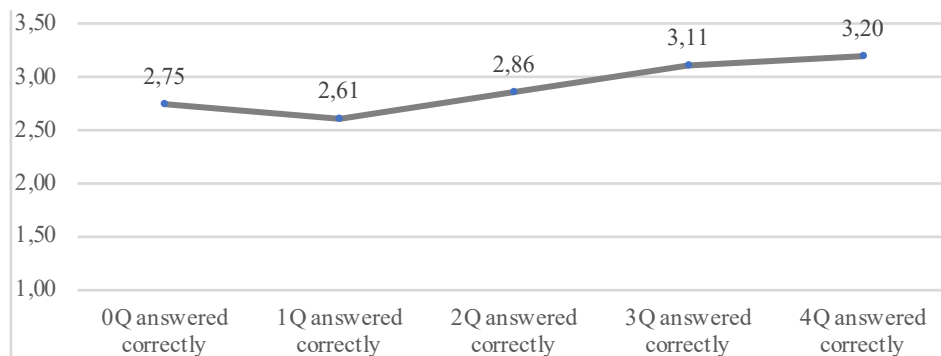
FIGURE 1: *Factual knowledge plotted against perceived knowledge*
Source: own processing, 2024

When investigating factual and perceived political knowledge covariates, results show that people who believe they know more than their peers about political affairs consume more mainstream media news, but no other correlation of political knowledge with news consumption is significant (H2d confirmed for mainstream media, but H2a, H2b, H2c not validated – see Table 1). News consumption from all sources does not seem to correlate with political knowledge in any form. If this could be due to a ceiling effect for mainstream and Facebook originated news (very low levels of news consumption already, M=2.10, SD=1.43 for mainstream media and M=2.83, SD=2.45 for Facebook news), the explanation does not hold true for news coming from SNS (M=5.10, SD=2.10). Additionally, both factual and perceived political knowledge are highly correlated with political efficacy (H3a, H3b confirmed) (see Table 1). Political efficacy is the strongest predictor of both models, which suggests a strong correlation of how politically efficient late adolescents feel not just with how much they know, but also how much they believe they know about politics. The direction of the correlation is not clear: either the more they know about politics, the more adolescents feel efficient about political matters or vice versa: the more they feel efficient, the more they learn and thus know about politics.

	Factual political knowledge			Perceived political knowledge superiority		
	B	SE	Beta	B	SE	Beta
(Constant)	-1.188	.450		1.485	.280	
News consumption from mainstream media	-.044	.044	-.049	.058	.027	.090*
News consumption from SNS	-.022	.029	-.036	.014	.018	.031
News consumption from FB	-.018	.026	-.034	.007	.016	.019
Political efficacy	.442	.066	.317**	.560	.041	.555**
Gender (female)	-.208	.124	-.079†	-.243	.077	-.128**
General grade	.171	.033	.240**	-.017	.020	-.033
Family education	.067	.089	.035	-.007	.055	-.005
Adj R square		.14			.37	

$**p<.01, *p<.05, †p<.1$

TABLE 1: *Factual and perceived political knowledge prediction models among adolescents*
Source: own processing, 2024

Additionally, boys tend to estimate they know more than girls do (B=-.243, p<.01), which is not confirmed by real knowledge differences (H4b confirmed, H4a not validated). Even though the boys (M=1.56, SD=1.33) in our sample responded slightly better than the girls (M=1.34, SD=1.23) to the questions regarding politics, the difference is not statistically significant in the regression model (p=.094).

Academic performance is positively correlated with factual political knowledge, but does not influence how pupils perceive themselves compared with their peers.

5 Discussion and Conclusion

This study examined what late adolescents know about, how they evaluate what they know about politics and how much these variables covariate with news consumption and political efficacy. The findings show that factual political knowledge and perceived political knowledge are weakly correlated (H1a is validated). Moreover, there is a Dunning-Kruger effect, that is, adolescents who know (almost) nothing about politics tend to overestimate their political knowledge level (H1b is validated), while those who really know a good deal about politics only

estimate they know slightly more than their peers. This aligns with findings from studies in both Romania (e.g., Gherghina & Marian, 2024) and other European countries. For instance, research conducted on the voting-age population in Finland (Rapeli, 2023) indicates that young people tend to be overly confident about their political knowledge. This overconfidence appears to be influenced by frequent exposure to social media, which seems to amplify their perceived understanding of political matters. The existence of the Dunning-Kruger effect with regard to high school students' political knowledge was also reported by other recent research conducted in Germany (Alscher et al., 2024).

Consumption of political news from mainstream media, social media, and especially Facebook are not correlated with factual political knowledge (H2a, H2b, and H2c are invalidated). Only the consumption of news coming from mainstream media is significantly, but weakly correlated with perceived political knowledge superiority (H2d is partially validated). This raises serious concerns about the role media plays in young people's (un)informed political decisions (including future voting). One possible explanation is related to high news avoidance habits among young people (Toff & Karogeopoulos, 2020), and the more prominent role of the parents' conversations about news (York & Scholl, 2015).

The finding supports the hypotheses H3a and H3b, namely that (internal) political efficacy is correlated with higher political factual knowledge and perceived political knowledge. Therefore, the adolescents' political efficacy in politics makes them more politically informed and confident about their political knowledge. This adds to the extant literature about predictors of political knowledge among adolescents (Fortin-Rittberger, 2016; Moeller & de Vreese, 2019), and suggests important ways to address the general lack of information about politics among parents, teachers, and society in general: building young people's confidence that their actions can actually count in the democratic process, and avoiding political cynicism (Schmuck et al., 2022).

Finally, boys are more confident that they have political knowledge, but they do not necessarily have more actual political knowledge than girls (H4a is invalidated, H4b is validated), partially in line with the literature that discusses an established gender gap in political knowledge (Jerit & Barabas, 2017; Mondak & Anderson, 2004). Regarding the control variables, only school performance makes adolescents more political knowledgeable, thus students with more school knowledge also have more political knowledge.

Given that informed citizens are a key element for democracy (Memoli, 2011), as they are more able to evaluate politically relevant issues and have higher political interest (de Zúñiga et al., 2021), the results draw attention to how ready late adolescents are to go to the polls in an informed manner. About one in three research participants did not answer any of the four political knowledge questions correctly, and only one in three answered just one question correctly. Moreover, students who know nothing about politics believe they are informed on this topic (see the confirmed Dunning-Kruger effect). These findings should be taken into consideration regarding any political base policy to lower the voting age. Currently, there is a bill in the Romanian Chamber of Deputies to lower the voting age from 18 to 16 years old. Our findings do not support such a policy given that the majority of adolescents are not sufficiently informed regarding politics. Furthermore, one takeaway based on the findings is that high schools should prepare teenagers for their future civic engagement, and that teachers should take into account that students perceive themselves as having more political knowledge than they actually have. Because political efficacy is the strongest predictor for how much late teenagers know or think they know about politics, one way to increase their actual political knowledge is to make them aware of the importance, and real consequences of being an informed and involved citizen in democracy, including voting. Possible concrete actions that might be implemented to address the issue of limited political knowledge among young people include a comprehensive review of the high school curriculum to identify those subjects that focus on political knowledge gaining, such as civics and history (which might include elements of political education). This

should be followed by an analysis of the content that is taught in such classes and by an examination of the teaching methods. After such an examination, one could advance some curriculum enhancements to incorporate more lessons about current political events at both national and international levels. Such actions could actively contribute to improving factual political knowledge among the young generation and, in the long term, to developing a more informed and healthy democracy. This study has some methodological limitations. First of all, we used a convenience, albeit diverse sample, also limited to the population of late adolescents from Romania, thus the hypotheses should also be tested on samples from other cultural contexts. Secondly, perceived political knowledge was measured generally, by asking students to evaluate how much they know about politics compared to their peers. Therefore, in this paper, actual political knowledge measured with specific questions about political figures was related to students' opinions about general knowledge. Thirdly, it is important to stress that we only measured political efficacy, and no other forms of political involvement, which might have proved important predictors. Nevertheless, this methodological option was justified by the age of the research participants, as they do not have the chance to vote, which is the best way to make the voice of citizens heard (Kitanova, 2019).

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Arielle Friedman, Ohad Ufaz

Creating Family and Community Film Testimonies: Empathetic Listening as a Learning Tool

ABSTRACT

This study examines the production of film testimonies as part of an academic course and how this structured educational process develops transformative competencies in learners. The semester-long course involves students from a variety of disciplines and backgrounds, drawn from all segments of the Israeli and Palestinian communities. Students study and experience the theoretical, pedagogical, ethical, artistic, and practical approaches of a psychiatrist and testimonial documentarist Laub and his writing partner Felman (Felman & Laub, 1992). They are also introduced to central authors in the history of documentary film. The process culminates in the students' documentation of stories within their own families and communities and the creation of their cinematic testimonies, which they present and discuss in class. The study aims to explore how the learning process helps students acquire transformative competencies as defined in the OECD 2030 document on meaningful learning needed today. Quantitative and qualitative content analyses tools were used to analyze the products of two testimonial courses, 19 film testimonials, and 32 reflective texts written by the students about the process they had undergone. The content analysis reveals that the students acquired three key skills: (1) taking responsibility, (2) balancing tensions and dilemmas, and (3) creating new theoretical and poetic values. The results also confirm the hypothesis that the pedagogical process of producing cinematic testimonies about social and historical crises can serve as a source of inspiration and growth by promoting empathetic listening and meaningful social change.

KEY WORDS

1 Creating Films as an Act of Critical Learning

Researchers agree that media education should inherently include the original production and creation of responsible and effective media content (Martens, 2010; Silverblatt et al., 2014). The dominance of digital media further increases the need for media education as a means of providing people with opportunities and tools for participation and creation in the present culture and media scene. The assumption is that people who are capable of critical reading of the media and its meanings, on the one hand, and who create and act through it in pursuit of fulfilling their personal and social needs, on the other hand, will enjoy some advantages (Bruinenberg et al., 2021; Jenkins et al., 2009; Walker, 2018). However, despite the positive feelings regarding media literacy and its contribution to learning, little research has been conducted on the development of the skills and qualifications that learners acquire during the educational process (Baylen & D'Alba, 2015).

Hobbs and Moore (2014) assert that the study of students' media productions should not solely analyze the works or the films themselves. They argue that extracting the educational investigative process, discovering the educational value, planning, cooperation, learner development, or the perceived audience of such student films is not always feasible based on these sources alone. Therefore, a critical examination of the educational meanings and products of the filmmaking of higher education students appears to be necessary. This examination should encompass the theoretical, practical, educational, and ethical knowledge required by students for their creations and their personal development (e.g., Adamson, 2020; Hakkarainen, 2011; Mateer, 2019; Nunn, 2020).

1.1 Empathetic Listening, Testimony, and Pedagogy

One of our goals was to examine whether the testimonial course model can serve as a means of developing listening skills and fostering empathy and sensitivity towards the suffering of others, particularly in historically and politically hostile groups. Thus, these ideas also align with practical educational research on facilitating encounters between conflicting groups through filmmaking (Ratner, 2020).

The concept of empathetic interview, which the course studies on both the theoretical and practical levels, is based on the work of a Holocaust survivor and psychiatrist Laub (1937 – 2018). In the late 1970s, Laub and his colleagues initiated a video testimony project aiming to provide as many survivors as possible with a platform to tell their stories. This project later evolved into the groundbreaking Fortunoff Holocaust Testimonies Archive at Yale University, where Laub developed the empathetic interview approach with rehabilitative qualities. The seminal book *Testimony* (Felman & Laub, 1992), which Laub co-authored with literature scholar Felman, delineates the main principles of the approach, emphasizing the interviewers' weighty responsibility of assisting survivors in navigating their traumatic memories. Felman's pedagogic suggestion constitutes a main element of the educational theory that influenced an education scholar Deborah Britzman (2000), who employs the term 'difficult knowledge' to describe the challenges of teaching about murderous historical phenomena, such as the Holocaust, genocide, and violent political and social attitudes. Britzman's followers examine documentary testimony as a central teaching tool, utilizing it to expose students to issues of difficult knowledge (e.g., Stoddard et al., 2017).

1.2 Meaningful Learning and the 2030 Document: Knowledge, Values, and Skills

Recent decades have witnessed considerable discourse on twenty-first century skills, which include critical thinking and problem solving, communication, collaboration, creativity, and innovation (Ohio Department of Education, 2015). Binkley et al. (2012) have mapped these skills into four domains: thinking skills (creativity, critical thinking, problem solving, decision-making, learning, and innovation); working skills (communication and collaboration); working tools (information and communication technologies and information literacy); and living skills (citizenship, life and career, and personal and social responsibility). This and other similar mapping are based on the development of educational approaches related to meaningful learning that have developed since the 1960s. This learning was largely supported by David Ausubel's theory, which provided inspiration for many learning processes among scholars and psychologists, with an emphasis on learning that opposes rote learning, and as a cognitive process of construction of new knowledge based on previously existing knowledge and the ability of this new knowledge to be implemented in new contexts. Over the past few years, attempts have been made to redefine how significant learning takes place, including the psycho-emotional aspects of understanding (Newton, 2012).

Based on the understanding of the urgent need to foster teachers' and learners' readiness for the twenty-first century, in 2014, Israel began implementing a reform through the National Program for Significant Learning in the Education System. The program aimed to bring about a fundamental change in teaching methods used in schools, making them experiential, relevant, and active.

To address the future of education and the skills that will be needed in 2030, the OECD published a paper written by philosophers, policymakers, academic experts, educators, students, parents, and social organizations from around the world. The authors estimated what children entering school systems in 2018 would need in terms of knowledge, values, skills, and competencies when they became adults, in order to design and develop their world (OECD, 2018). The document defines competencies as an integration of knowledge, values, and skills; translates the skills and other basic concepts of education into a set of specific competencies, including creativity, critical thinking, responsibility, resilience, and cooperation; and encourages future syllabi constructed on this basis. The competencies found to be the most relevant for the evaluation of the learning process were transformative competencies (Helin, 2021). The three primary competencies used as criteria for assessment of the level at which learning is significant in the educational process are: (1) Taking responsibility, which necessitates making decisions and acting in a manner that benefits others. This involves expressions of compassion and respect, self-awareness, self-regulation, and reflective thinking. (2) Reconciling tensions and dilemmas – in a world characterized by inequality and conflict, students are expected to develop the ability to understand others' needs and wishes and demonstrate empathy and respect for their points of view. (3) Creating new value – according to the report, when we create new value, we are adding value to society, such as new forms of thinking and new social models, while developing critical thinking skills and the ability to cooperate.

The OECD follow-up documents (OECD, 2024) transfer the focus from learning, which the first document focused on, to teaching, i.e., who the teachers are, and the types of skills and curriculums they need to assist their students to fulfill their potential, thrive and create transformative competencies. The documents point to the importance of focusing on curriculums that include a change in pedagogy and evaluation, as well as in teachers' professional development, for example, by using curriculums that encourage flexibility and autonomy, also suggesting the dimensions for measuring flexibility.

However, while the present study adopts the OECD competencies, it also acknowledges two main criticisms regarding the learning standards documents. The first concerns the education system's increasing reliance on standards-based assessment, a trend promoted, among other things, by the OECD itself, through the use of comparative international achievement tests. The second criticism pertains to the diminishing status of art-related subjects, partly due to their intrinsic emotional and creative nature, which cannot be adequately captured using quantitative measures and standards (Levi-Keren, 2017). The perception of education system graduates as expected contributors to the country's future economy, coupled with the evaluation of teaching syllabi and methods based on quantifiable metrics akin to industrial products, inevitably diminishes the role of art education. When art education is assessed solely based on skills, achievements, standards, and career preparedness, it becomes relegated to serving technology and the market rather than fostering critical thinking and resistance or releasing the imagination (Greene, 2000).

2 Methodology

The present study aims to analyze how an educational process of creating personal film testimonials contributes to the development of transformative competencies that are necessary for life in the third decade of the twenty-first century, as mapped by the OECD. Through documentation, exemplification, and evaluation of the structured educational process of creating family and community film testimonials, we examine how this process contributes to the acquisition of the above-mentioned competencies.

The course in question integrates documentary filmmaking with social-educational action. Initially, students delve into the philosophical approaches of Laub and Felman, alongside those of documentary filmmakers. They then select a story they wish to document within their family or community, which together encompass diverse Jewish and Palestinian communities. Engaging in the creation of film testimonials, they showcase their productions to classmates and other guests, stimulating discussions centered around the presented testimonies. Finally, students compose a reflective paper scrutinizing the process of documenting, crafting, and presenting the testimonials in class and considering the theoretical frameworks explored throughout the course.

The main question guiding the research was:

How does the creation of film testimonies and their analysis through a structured educational process allow for learning that promotes the acquisition of transformative competencies as defined in OECD 2030?

The sub-questions were:
- How do the films' topics contribute to the development of these competencies?
- How does the familiarity between the documenters and the witnesses contribute to the development of these competencies?
- How do the students perceive the meaning of learning within the educational process of creating film testimonies?

2.1 Data Collection and the Research Process

The corpus of the present study includes:
1. Nineteen film testimonies created by 35 students (30 women and five men) who participated in two semester-long undergraduate courses.
2. Thirty-two reflections written by the students who participated in the two courses. The reflections were written based on the following structured guide:

a) Analyze the meetings with the witness while working on the testimony, the emotional coping, and your role as a listener.
b) Discuss the cultural, social, and educational aspects of the testimony you have created.
c) Consider whether you made any aesthetic cinematic choices.

2.2 Grounded Theory and Mixed Content Analysis

To examine the value-based and educational contribution of the testimonial courses, we analyzed the films' thematic characteristics and the familiarity between the witnesses and the filmmakers using grounded theory. This approach aims to create a theory from the raw data collected in the field, which best represent the studied phenomenon, rather than relying solely on existing theories (Kassan & Kramer-Nevo, 2010; Shimoni, 2016). The present study used a two-stage analysis: (1) Using the definitions provided by the filmmakers themselves of their films' topics and the familiarity and connection between the witnesses and the documenters according to the students' reports. (2) Content mapping carried out by the two researchers who examined the films' topics (both overt and covert), providing an overview regarding the entire corpus of films, their content, and the production process. In the second stage of the study, we analyzed the students' reflective comments using quantitative and qualitative mixed content analysis. A mixed analysis method challenges the dichotomous division between qualitative and quantitative and is particularly suitable for this type of research, which is based on interpretation and participant perception (e.g., Eylon & Sabar-Ben-Yehoshua, 2010; Mayring, 2014). The content analysis method was developed for the analysis of spoken and written texts. It is considered to be methodologically clear, systematic, trustworthy, and objective, although there are always elements in the text that also relate to the wider cultural context to which they belong, and therefore their analysis necessarily involves interpretation (Rose, 2001). Bauer (2000) defines the quality of content analysis using cohesion in the framework of coding and transparency through documentation, reliability, and validity, suggesting an eight-stage model of content analysis. The mapping includes coding of both text levels: (1) the semantic dimension, that is, a certain vocabulary that the competencies document defined as belonging to each, as well as the general meaning of the entire text; and (2) the syntactic dimension, that is the general meaning of the entire text. The content analysis included a mapping of the students' written statements and their analysis according to the above mentioned three competency categories which the OECD 2030 document defined as transformative competencies: taking responsibility, reconciling tensions and dilemmas, and creating new value. The content analysis was carried out by the two researchers, first separately and then together. The comments were sorted and divided into tables according to the criteria of the three transformative competencies, classifying similar answers together. We compared the coding schemes and used their similarities and differences to refine the analysis by combining indistinguishable categories. For example, at the beginning of the coding process, we classified the data so that "creating new value" included three components: theoretical, ethical, and aesthetic value. Following the analysis, we realized it was impossible to make this distinction within the students' reflections. We combined the values in the third category, which we redefined as 'creating theoretical and poetic values'.

A major aspect of the aims and content of the course was a discussion of the ethical dilemmas of documentary filmmaking, and the dangers of exposure that are a natural part of testifying and making documentary films. The research process was based on written permission provided by all the students, and all the identifying details of both the students and the witnesses were kept confidential. Another ethical issue considered was the authors' involvement in the course as both lecturers and researchers.

3 Results

3.1 Mapping the Content of the Films

Ten of the 19 films analyzed deal with the Israeli-Palestinian conflict, including wars, serious terrorist attacks, returning occupied territory as part of a peace process, and the effects of these events – in the form of physical injuries, bereavement, post-trauma, and human rights violations – on civilians and soldiers. The second most common category, accounting for four films, includes topics of immigration to Israel, including experiences of antisemitism in the country of origin and absorption difficulties in Israel, such as poverty and discrimination. Two films unique to Palestinian society deal with violence and discrimination against women in the Arab sector. One film deals with first- and second-generation holocaust survivors.

The most traumatic topic that the students raised appears to have been the experiences of both Jews and Palestinians, from both sides of the long-running conflict that is experienced by everyone in the country, and particularly how this bloody conflict has impacted the country's citizens. The testimonies dealing with this issue included testimonies of the Palestinian Nakba and the persecution and bereavement suffered by Arab Israelis at the hands of the security forces. On the Jewish side, some testimonies dealt with soldiers' battlefield experiences, and testimonies of terrorist attack survivors emerged from both sides of the conflict.

With the exception of two films about coming out and domestic violence – which, despite their local characteristics, deal with universal topics – most of the topics selected highlighted local content and attributes that are characteristic of the Israeli population.

3.2 Mapping the Familiarity between Documenters and Witnesses

Mapping the family ties and familiarity between the documenters and the witnesses they chose reflects that most of the students interviewed close family members: five chose a parent (four fathers and one mother), two chose a grandparent (one of each gender), one chose a partner, and one a more distant family member. Three films dealt with heroes who are friends, and five films dealt with inhabitants of the place of residence or members of the community. Not even one film was made in which the documenter and the witness were not close in some way. Some of the students heard from their parents or grandparents for the first time about a formative event in their past, allowing the witnesses to share their pain for the first time. This aspect found expression in the reflections that the students wrote at the end of the process: "S. has agreed to open up for the first time and to testify regarding his experiences in Lebanon, only because he wants to introduce his children to what he has gone through… so we tried not to 'dig' too much into his wounds and allowed him to choose what he wanted to share. It was important for us to give him the feeling of passing on a message, that his testimony has a role beyond his personal story" (L & M).

In one testimony of a father to his daughter, the father shared with her his memories from the Holocaust. Another father told his daughter his story from the Yom Kippur War. Other students chose to bring testimonies from the community outside of their family, wishing to bring these stories effectively to their classmates and wider potential audiences: "It was clear to us that we needed to make important cinematic choices, such as the sad, authentic Arabic music (particularly the oud) at the beginning, pictures from the destroyed village at the end of the film, and the emphasis on her facial expressions, in the hope that we receive attentiveness and openness from the Jewish side, which has heard very little about events from the Nakba. Making these choices stemmed from the wish to make the voice of our community heard, without going into the political-historical argument" (Z & A).

In this case, we can see how poetic choices of cinematic expressions served the documenters in their attempt to reach possible audiences, a point we expand on below when discussing the competency of creating new value.

One of the films contains the testimony of a post-traumatic soldier who served as a medic in the Lebanon War, as he recounts his experiences to his partner. This testimony joined that of others from the battlefield, exposing personal emotional wounds and presenting a poignant claim regarding the price of wars and Israeli society's failure to deal with the price paid by the soldiers and their families.

In another testimony of a father to his daughter, this time regarding his family's difficult absorption into Israel following their immigration from Afghanistan, he discussed the humiliating way his family was received as compared to the way his neighbors who immigrated from European countries were received. As she listened to her father, the daughter brought up the ethnic discrimination that Mizrahi Jews suffered when they immigrated to Israel – one of the major sources of tension in Israeli society.

3.3 Analysis of Students' Written Reflections regarding the Learning Process, Using Transformative Competencies

Taking Responsibility

The ability to take responsibility emerged clearly in the students' words as part of their role as 'listeners'. This role required them to allow the testimony to be heard as a mission and involved a great sense of responsibility for this testimony, as well as for the witness, his or her welfare, and the respect they were due. According to the 2030 document, this competency necessitates moral and intellectual maturity through which a person may evaluate and critique his or her actions in light of personal and social experiences and goals, and discuss the moral and ethical implications of these actions. "When listening to the testimony…" explained one student, "we felt we had a very important mission by making him…share the pain he had kept closed up inside for such a long time" (A). This dynamic is also reflected in the following quote: "During the filming, we decided to respect the witness and not make it any more difficult for him, so when S felt that it was too difficult, she was silent together with her father, and she offered him a drink and to wipe his tears" (S, A & H).

FIGURE 1: The Witness Rafi: His Childhood in Poverty and Deprivation after Immigrating from Afghanistan to Israel
Source: Aharon (2019)

This example is indicative not only of respect but also of empathetic participation in the witness's pain. Despite the pressures inherent in the production process, the filming crew did not push the witness, giving him all the time necessary to cope emotionally with the difficult memories that surfaced during the process. Taking responsibility also means acting ethically and asking yourself questions regarding norms and values. This aspect formed the theoretical and cinematic basis taught in the course, which, in the students' words, became a basic element in the students' works. "During the interview, P related that, through his connections, her father had managed to get an ID card for her sister and her husband. This is a very sensitive issue in Palestinian-Arab society regarding the Nakba, because he could simply be marked as a 'traitor' or 'collaborator'. I thought about this during the interview, but I listened to the end and did not want to judge, as this was not my goal in the interview" (Z & A).

Reconciling Tensions and Dilemmas

To reconcile tensions and dilemmas, the report says, students need cognitive flexibility, the ability to examine situations with perspective and complexity, and abilities such as empathy and respect for others and different views. To this end, for example, the students demonstrated awareness of the joint watching of the films in class and the role they have assumed in coping with controversial issues as part of the course. N testified that: "Our class has a mixed population with different origins and different opinions. Some of the testimonies presented were controversial, but all were personal stories encouraging identification. I believe that everyone who went out to film a testimony thought of the class population… So, I think that, like me, everyone thought about how to present the events to leave things authentic, real, and respectful to the witnesses, but at the same time not hurtful to the students".

H emphasized the importance of the academic course in which the students encountered testimonies, in the absence of a place where certain narratives can be heard outside of the course. In the case of the evacuation of Gush Katif and the uprooting of Jewish settlements due to the agreement signed, H noted "the importance of this testimony in the existing 'testimony basket', as this is part of Israeli history that is not heard in many spaces, only in certain sectors…"

CH and N use terminology relating to the intensity of the experience, multiple narratives, and complexity in addition to the fragility of the realities present in the film testimonies: "The intensity of the many testimonies was an extremely powerful experience… I suddenly realized how fragile and not to be taken for granted our reality is. How much we walk on thin ice, trying not to become injured by the abundance of narratives locked within each other. I felt that the only chance of something changing would be if we continue to unveil the personal stories and the painful places to one another, simply and cleanly".

Creating New Value

The unique ethical competencies of the course functioned side by side with additional learning competencies that can be identified, including the competency of creating new value using critical thinking and creativity while cooperating with others. In their films and writings, the students testified to the creation of new value regarding both theoretical and poetic-aesthetic aspects, also related to the ethics of creating film testimonies. Thus, for example, the student's writing made repeated mention of the cinematic use of silence, and demonstrated awareness of the fact that the testimony comes across through silence as well, together with editing or filming limitations: "I handed in the testimony full of silences…I felt that that is where I, and I believe also the audience, could really experience N, along with the pain…" (H).

H then continued to explain how she integrated the theory (Laub) and the film from a cinematic point of view, using silence as a basic element: "Dori Laub also mentions the importance of silence, which serves the witnesses as a place to escape to… I felt that based on the slogans, N is undergoing an internal process of re-experiencing the trauma, with the silences being the only testimonies of this".

That is, we observe an integration between Laub's theory and the film testimony and the aesthetics the students chose to use. Despite the film including only "talking heads" and paying a price for a lack of cinematic poetics in aspects of action and space, the students were aware of this price and discussed it in their writing. However, they also testified to what they gained by focusing on the witness's spoken content and the fact that this helped them develop the ability to listen more closely. "How much power is there in a clean, sharp frontal testimony? We don't always have to provide another level of visuals, as this way the words enter you as you are unable to ignore them, and the role of the listener, 'the witness of the witness', gains added value" (N & CH).

On the one hand, the students internalized and expressed awareness of the poetic process due to the public screening of the testimonies in class and their influence on the audience, which became partner to the testimonies; on the other hand, they connected all of this with Felman's theory, which regards art's pedagogical power to testify: "Artistically speaking, Felman writes that to testify means to create a performative speaking act. The screening we had was such an act – a cultural, artistic event that created a conversation with the audience" (A & M). "After we screened the testimony, there was another kind of discourse, even if it was not very prolific. It was a discourse not stemming from a logical, theoretical place, but rather involving the experience, so that, according to Felman, the testimony changes from theory into a life event, which includes endless learning" (A).

Based on the ethical and pedagogical commitment to bring the testimonies to their classmates along with potential future students, the students demonstrated awareness of the cinematic choices they made in pursuit of the effective presentation of the testimony: "Indeed, there were cinematic aesthetic thoughts about the frame, lighting, editing, etc. We chose to bring archival segments so that the audience could better connect to her story" (D & S). "We decided to film Omer outside, in the open air, in his yard, where he feels comfortable on the one hand, and on the other…it will have something that's not estranged from the Lebanon story…something that will provide some kind of counterforce to the story, which exposes a complicated tale and disturbing statements and conclusions about the IDF and sending boys into battle" (N & CH).

FIGURE 2: The Witness Omer: Testimony of a Difficult Battle During his Service in the IDF in the First Lebanon War
Source: Rotem (2019)

4 Discussion

This study examines how an educational process of creating family and community films can help students acquire the transformative competencies defined in the OECD 2030 document. To this end, both the films and the students' written reflections were analyzed to evaluate the learning process during the course. The starting point of the course syllabus was the assuming of personal responsibility and empathy toward the witnesses and their communities, as well as the development of a commitment to them to introduce their testimony to the public social space of the audience in the most influential way possible. In addition, the creative, poetic aspect of film testimonies emphasizes minimalist aesthetics rather than complex film language to sharpen the messages of the testimonies and to create a deep emotional connection between the audience and the experiences of the witnesses. This aspect was added as a complementary, value-based theoretical layer to the foundation of ethical action based on the study of the concept of witnessing. Thus, the course's creative learning process is enriched by an additional layer that goes beyond Laub's teachings, which focus on listening to witnesses, but lack the additional commitment to carry their testimony into society. This layer is expressed in a commitment to the process of processing and mediation reflected in the students' decision making regarding directing, shooting, and editing.

Students testified to having experienced a deep encounter with the dilemmas, tensions, and fissures that are characteristic of Israeli society, alongside the development of a sense of universal human partnership and empathy. Since the entire course was based on the discussion of the ethical dilemmas inherent in all aspects of documentary film, these ethical issues were internalized by the students not only through the discussion of the theory studied, but also through the creation of the cinematic testimonies and their content. Students attested to having developed an ethical sensitivity to the witnesses and the ability to have a meaningful ethical discussion about how the topic is addressed in class and the impact it might have on the audience during the screening and subsequent discussion.

"Can the process of the testimony – that of bearing witness to a crisis or a trauma – be made use of in the classroom situation?" ask Felman and Laub (1992, p. 1). In this respect, the course adopted the spirit of the pedagogical experiment that Felman and Laub conducted, the importance of testimony as a teaching and educational tool, and the significance they attribute to pedagogical processing and the creation of meaning, especially in a time of sometimes traumatic historical, political, and human crises. The emotional quality of cinema allows testimony to become an empathy-enhancing process, even for people unfamiliar with the experience described by the witness. In this respect, the results of the present study confirm Felman's hypothesis that testimonies about overcoming conflict and crisis can serve as a resource for inspiration, growth, and social change, with an affinity to the field of education.

The course was structured to create an arena in which film testimonies are created, followed by a structured discussion. The work is collaborative, involving both the shared learning process of the theoretical foundations and the practice of creating film testimonies based on Laub's films. In the next phase, the film testimonies are created in small groups, screened in class, and commented on orally and in writing by the other course participants. In this respect, the course is in line with the fundamental finding of the OECD report, that learning involving knowledge construction, new value creation, and creative development must take place in an arena of collaborative learning rather than individual learning that is detached from others and from the community.

The themes that the students dealt with in their films can be situated along a continuum between the global and the local. However, most of the student films dealt with the Israeli-Palestinian conflict and the family casualties of terrorist attacks and wars that depict the ongoing suffering in Israel. As Israel is characterized by a bloody long-standing conflict and Israeli society exists in a unique reality of immediate life-threatening situations along with a

series of past traumatic events such as the Holocaust, wars, terrorist attacks, and internal social divisions, these themes are clearly unique to local Israeli history. Student-written reflections revealed that the course in question is sometimes an initial and unique opportunity for them to engage with family stories that express national traumas central to the history of people living in this country. These themes, which appear in the students' film reports, are not present in other educational or public institutions in the country.

In this way, the course enabled students to engage with what Britzman (2000) defines as "difficult knowledge", meaning the pedagogical management of issues such as violence, illness, death, and social catastrophe, and the processing of collective traumas that are difficult to deal with in the classroom and are therefore silenced. Britzman, therefore, can be linked to the ideas of Felman, who argues that dealing with testimonies represents a pedagogical opportunity to overcome crises. In this course, the students were not only confronted with difficult knowledge that the teachers imparted to them, but they also ventured forth into the real world to listen to and document the survivors and victims of history. In the next step, they processed the knowledge into short films, which they showed to their classmates and teachers. In this way, a filmed testimony about the Nakba presented by the students of the course enabled the Jewish students to contend with this traumatic chapter of Palestinian history for the first time, and the testimonies of Holocaust survivors documented and edited by Jewish students enabled the Palestinian students to contend with personal experiences from this traumatic chapter of Jewish history for the first time.

The fact that most students chose a close family member as a witness reinforced the educational view, which they adopted in the course, that they have a responsibility to uncover and recount family histories. This is an attempt to articulate and share with friends forgotten, repressed, and culturally forgotten historical stories from a personal and intimate point of view, using the power of the filmed testimony. In the spirit of the challenge of sharing "difficult knowledge", it presents an opportunity for students to learn, be present, and be recognized by other communities for this difficult and traumatic knowledge, which was shaped and sometimes defined by the history of the family from which they came. This personal element may explain the great motivation that characterized the students' work in the course, which combines theory and creation. It is also a recognition of the opportunity to discuss the issue of intergenerational transfer of trauma and painful, identity-forming memories within the students' families. The students' decision to bring testimonies from the familial-communal space into the socio-political arena practically enacted the perception of the role of film testimonies as a personal call for historical justice (Ufaz, 2017).

The results of the study therefore emphasize the importance of this kind of personal creation in awakening in students in general, and education students in particular, the understanding that personal family traumas are also the collective history of Israel.

The significance of empathetic listening and compassion within educational frameworks, and the necessary skills and methods of measuring their acquisition, have been discussed in the educational literature (e.g., Barton & Garvis, 2019; Kourmousi et al., 2017). Our study is based on a humanistic approach of empathetic listening as defined by Laub: "For the testimonial process to take place, there needs to be a bonding, the intimate and total presence of an 'other', in the position of one who hears" (Felman & Laub, 1992, p. 70).

Laub describes a total and present empathy as a condition for the existence of testimony. Based on our experience of accompanying student testimony, we learned that in many cases the documentation itself creates this empathy among the listeners, thus combining Felman's pedagogical perception with Laub's ethical-rehabilitative perception – the students experience empathetic listening during the testimony and learn to also adopt it when dealing with a social-historical crisis.

5 Conclusion

The findings of the present study point to the potential that lies in the creation of family and community films as part of a structured educational process to acquire the competencies learned by encountering 'others', recognizing difficulties, developing sensitivity to their suffering and struggles, and even encountering the narratives of confrontational social and political groups to develop values such as tolerance and empathetic listening, as well as intellectual and not just emotional skills for coping with the divisions in Israeli society. These findings echo Perkins' (2016) assertion that meaningful learning is measured by how much it impacts the lives of our students in the future.

In this spirit, future research should investigate the impact of the course on students as teachers, and the extent to which they have implemented all or parts of the course in their teaching as part of meaningful learning, particularly concerning teaching empathy and listening to others.

The original course design was aimed at prospective teachers of the media and cinema. In view of the results, we concluded that students from other disciplines who took the course without training in documentary film could also achieve a high level of performance and significant learning success concerning the aspects examined in the study. Based on these findings, the course was changed, as we realized that it would allow students to acquire basic skills needed by any learner in the twenty-first century – i.e., technological and practical media literacy skills. Since the media is everywhere and everyone, in their pocket, has a sophisticated camera on their smartphone and simple apps for film editing, it is easy to bypass the technological challenges and develop the principles and values that are important for every learner, as the present study shows. In this regard, the course has been modified and its objectives reformulated so that any student, anywhere can acquire this pedagogical and ethical method so that they can apply it, without being dependent on film equipment and professional training. The conclusion is that, before any technological or professional training occurs, training and experience should be based on human and ethical responsibility and sensitivity.

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Matej Majerský, Viera Kačinová

How Does the Media Communicate Information about Climate Change? Analysis of Slovak Mainstream Media in 2019-2024

ABSTRACT

Climate change is one of the biggest global issues and challenges facing society today. The media reflect this topic in their content, but it often fades into the background in terms of the importance of other events. However, the diversity of this topic does not stop at the issue of waste management or waste reduction. Climate change and related topics can be found in content that focuses on politics, economics, energy or culture. Certain social events can add important journalistic value to the topic in order to attract both journalists and audiences and thus make it into mainstream content. This study aims to explore how the communication of climate change in the Slovak mainstream media has evolved over the last five years. As part of a quantitative content analysis, using keyword searches via a media monitoring application, we will examine Slovak print, online and television content between 2019 and 2024 – this period captures the global events of the COVID-19 virus pandemic and the Russia-Ukraine war.

KEY WORDS

Climate Change. Earth Day. Earth Overshoot Day. Global Events. Media Coverage. Setting of Agenda. Slovak Mainstream Media. World Environment Day.

1 Introduction

Apart from experiencing the world around us through sensory perception, it can be claimed that we understand the world purely through mass media. Many theorists agree that claims about the media being all around us are already inaccurate and that we should rather say that we ourselves live in the media. M. Deuze begins his publication *Media Life* (2015) with the claim that we live "inside the media". According to D. McQuail and M. Deuze (2020), in turn, our minds are full of information and impressions gained from the media. We live in a world saturated with the sounds and images of the media, where politics, government and business operate on the assumption that we know what is going on in the world. N. Carah, in the introduction to his publication *Media & Society: Power, Platforms, & Participation* (2021), says that media operate on the principle of social processes, transmitting meanings. These are the meanings that shape our understanding of the world around us and our attitudes towards particular elements of reality. He highlights the importance of this process as he declares that how we understand the world determines how we behave in it. It is the saturation of our lives with the media and the fact that it explains to us issues that affect us that is, in our opinion, a very important factor influencing the development and behavior of society.

Of course, it is impossible to ignore the fact that there are other ways of understanding different realities, which are of a micro-social or interpersonal nature (in the context of family, kinship or neighborhood communication), or also of a macrosocial impact (e.g. through a public lecture). However, these often work again with the mass media as a source of information, which thus acquires an almost monopolistic character in this sense. This is especially true for global topics, among which we include the topic of climate change.

Even though we can already see some of its manifestations around the world, or in our immediate surroundings, it is virtually impossible to perceive its global impact without the media. Since people learn about the phenomenon of climate change from the media (Sachsman & Myer Valenti, 2020), as well as about its causes, consequences but also individual actions that could slow down its impact, the task of correctly and thoroughly interpreting this topic is in the hands of journalists.

2 The Current Challenges of Communicating Climate Change

Communication on the issue of climate is difficult for several reasons. First of all, we can point to the complexity and intricacy of the topic, which is very complicated to process into comprehensible media content. This may also be related to the fact that the phenomenon of climate change is still largely abstract. Unlike many other topics, the topic of climate change is rather bland. It is a specific scientific field that is not easily understood by the average person. When reporting on climate change, media content writers present complex data and information of a scientific nature. Moreover, the recipient may not be motivated to want to understand such texts, as we assume that the significant social impacts that humanity will face during the climate crisis are a matter for the future (Sachsman & Myer Valenti, 2020 ; Krajčovič et al., 2023). Content that presents this issue often falls into the sub-genre of environmental journalism. This is the type of media production that comes closest to reporting on climate change. According to the World Wildlife Fund for Nature (WWF), environmental journalism creators should educate and inform the public about the serious state of the environment and use the power of the media to raise awareness about the changes needed to improve air and water quality, protect wildlife, and also conserve natural resources (Word Wide Fund for Nature, 2009). G. Mocatta, as per her argument, defines environmental journalism as: "an extremely multifaceted and complex genre of journalism that covers a wide range of socio-political, technical and natural

phenomena" (2015, p. 12). However, the topic of climate change is only one of many themes that can be classified under environmental journalism. In the same way, climate change brings together a wide range of subjects under its own label. Based on a study by the Department of Communication and Media Research at the University of Zurich, we can classify topics that directly relate to climate change into three dimensions – the Societal Dimension, the Ecological Dimension, and the Scientific Dimension. According to the research group, the media most often touch on the Societal Dimension – with the causes of climate change and possible solutions being the most frequently discussed issue. Among many topics, one can mention those such as clean energy, energy efficiency, oil extraction, greenhouse gases, carbon capture, infrastructure and transport, personal transportation and cars, sustainable consumption, environmental policy, COPs, education for sustainable development, agriculture, sea and ocean level rise, and many others (Hase et al., 2021). However, the diversity of topics does not have to be a problem. According to some authors, it is the existence of a wide range of topics that can indicate positive developments that help disseminate different types of information to different media audiences (Painter et al., 2022).

Reporting on climate change is a challenging task, for which a media professional needs experience and a certain level of understanding of the issues (Vrabec & Pieš, 2023). Environmental journalists play a key role in this sector. According to M. Brüggemann (2017), journalists contribute significantly to the understanding of climate change as a societal problem. Their role is, for example, to decide who is legitimate in this matter and to whom they will give media space in the form of publishing statements on climate change. However, they also represent the role of mediators in their own authorial commentaries. He sees journalists as actors who produce climate-touching content in the media environment. The profile of the environmental journalist is defined by many theorists (e.g., Schäfer, 2015; Moccata, 2015; Friedman, 2004). For example, J. Holanda et al. (2022) argue that journalists are more likely to stay in the field for longer periods of time compared to other fields. They also state that such professionals are more likely to have a university degree. However, they still consider themselves to be journalists and media workers rather than environmental professionals). M. S. Schäfer (2015) points out that climate change (which falls under environmental journalism) is a transdisciplinary topic that overlaps with the natural sciences, politics, economics, culture and other fields. This theme is often covered by a variety of journalists, and therefore it can be argued that journalists reporting on climate change are largely not monothematic experts on climate change. S. M. Friedman (2004) states that environmental journalists in newsrooms also often face challenges in securing space to publish their content. She claims that such journalists are often forced to shorten or dramatize their articles and content. However, the complexity of the subject matter requires careful in-depth research and also adequate media space. A consequence of this is that many of them often use new media, in the form of online blogs or social media, where they have more freedom to tell their stories in detail (Friedman, 2004, in Pezzullo & Cox, 2014). Meanwhile, the complexity of the topic and the rather complicated terminology is not only a problem for the recipients, but many times also for the journalists themselves. J. Holanda et al. (2022) state that, in connection with the quality of media output, the creator faces the additional challenge of working with scholarly sources that often use rather technical and austere language. These are, according to them, the exact opposite of the kind of sources media professionals are looking for.

The work of environmental journalists is therefore quite demanding and requires a great deal of knowledge and experience to produce. Their products can be different kinds of journalistic outputs, such as feature stories, photo essays or video-reports. In many cases, such workers have to travel to other countries to obtain material for their content. This is especially true for stories that follow major global issues. Fieldwork is also needed for local issues where a reporter is required to react quickly and, for example, in the case of environmental disasters, to arrive on the scene as quickly as possible. If we consider the author's statements, we can argue

that this is where the pressure on environmental journalists is the greatest. If an environmental journalist happens to be unfamiliar with an area, at the very least he or she needs to know who to contact and which expert or institution will be able to provide the answers and statements necessary for his or her work. It also turns out that in their work, such focused professionals tend to investigate issues in depth and therefore their outputs are often larger in size.

3 Methodology

Media coverage of the phenomenon of climate change in any form is a fundamental line of media research in connection with the environment and ecology. There is a certain amount of media coverage of the issue, but this appears to be quite variable. We are therefore interested in how media coverage of this issue in Slovakia has evolved in recent years, and it can be argued that the timeframe of the study also captures the first entry of this topic into the mainstream media agenda. The period under review also reflects major global events, such as the COVID-19 pandemic and the outbreak of war in Ukraine. The issue of climate change is an important global topic, but one that must also compete for media space with other topics. We will therefore be interested in the extent to which the presentation of the topic of climate change will be influenced by other global issues or events, and over time periods that are ecologically significant [RQ1]. We consider ecologically significant periods to be international days that commemorate the importance of environmental protection. These include "Earth Day" (annually on the 22nd of April), "World Environment Day" (annually on the 5th of June) and "Earth Overshoot Day" (annually set on a different date). These are days or periods when the level of coverage of climate change in the media should naturally increase. Thus, we hypothesize that during time periods that are ecologically significant, the rate of reporting on the topic of climate change will increase over less thematically significant periods [H1]. It is such days that should provide media editors with the news value of the updated element that is needed for the topic to reach the media space. The media coverage of the topic should therefore, in our view, be significant. The size of the media space is limited for various reasons, but one of them is also the number of topics that the media can present. The priority of a given topic is not always easy to determine, but there are global events that, because of their importance, reach the media space "automatically". Such topics clearly include the COVID-19 pandemic or the outbreak of war in Ukraine. Given the importance of these topics for the whole world, and therefore also for Slovakia, their significant saturation of the media space is appropriate. Therefore, we assume that these global events can have an adverse impact on the amount of content on climate change on the thematic days that are naturally associated with this phenomenon. We therefore think that the occurrence of global events like COVID-19 pandemic or the outbreak of war in Ukraine will reduce the frequency of media content about climate change, even in ecologically significant periods, compared to time periods when these events are not relevant [H2]. Keyword phrase matches in ecologically significant periods will not be evaluated on exact days, but within the weeks in which a given day occurred in the corresponding calendar year. We will do this because the media may respond to a given thematic day in their content a few days afterwards. Thus, to be clear, we declare that we assume that the rate of reporting on climate change changes in the weeks in which the theme day occurs.

Using quantitative content analysis, we will examine media coverage of climate change in the Slovak mainstream media between 2019 and 2024. We will do so using media monitoring software – Mediaboard. Through this application, we will examine media outlets, which will include print, online news and television. In our case, we base our analysis on the most important variable, which is the amount of media content that contained the keyword phrases we searched for in a single week. In our case, these are the keyword phrases "climate change" and "climate crisis" [org. "klimatická zmena", "klimatická kríza"]. In total, we examine 27 media outlets over

a period of 5 years. About our main research method, T. Trampota and M. Vojtěchovská (2010) argue that quantitative content analysis is useful for finding what topics the media covered and has the advantage of being able to examine a large set of media content. The hard data that we obtain using it will give us the opportunity to compare the values of individual variables with each other. According to them, the relatively high reliability of the measured data is also a positive factor. A monothematic publication on methods that can be used to study climate change, and the media was published by a team of authors from the University of Jönköping in Sweden. In it, they argue that conducting quantitative content analysis using keywords (or phrases) such as "global warming" or "climate change" is a legitimate workflow. However, they argue that the researcher should be careful that the keyword phrase is not too general and that the matches the system finds are indeed related to the issue under study (Schäfer et al., 2016). We will also complement the quantitative content analysis with qualitative content analysis if additional refinement is needed, which we will do based on the soft data we obtain from the monitoring application.

Keywords – The software we use can search for different words or phrases thanks to proper entry. In our case, we will search for connections to climate change using the keywords – "climate change" and "climate crisis". The monitoring software reports media content in which the keyword defined by us has been used at least once per media content. We consider it as a media content with the keyword phrase used. The software evaluates such matches differently, but if it is, for example, from the evening news and the keyword phrase was mentioned in two reports, the software evaluates it as a single article with the keyword used. If the content is in printed media or online content, the software evaluates the individual articles separately. If, for example, two articles containing the keywords we have defined appear in one daily newspaper, the software evaluates this result as two articles with the keyword used.

Selected media – for the highest level of objectivity, our research focuses on the most watched, listened to and read mass media in Slovakia. The sample is based on MEDIAN SK's press releases on MML-TGI research from 2019, 2020 and 2021. The survey on media readership, listenership and viewership tends to be carried out on a sample larger than 8,000 respondents aged 14 to 79 (MEDIAN SK, 2020). We selected online media based on data collected from the IAB monitor. During the period we monitored, the top ten most visited websites featured mostly the same media. From this list, we selected web portals that focus on news (we excluded the websites heureka.sk and bazos.sk, which are used for online shopping). Based on this data, we will examine the following media:
- Printed periodicals:
  - Daily newspapers: *Nový* čas, *Plus jeden deň*, *Pravda*, *SME*, Šport, *Hospodárske noviny* a *Denník N*;
  - Weekly newspapers: *Plus 7 dní*, Život, *Nový* čas *pre* ženy, *Slovenka*, *Eurotelevízia*, *.týždeň* a *TREND*[1];
  - Online news: aktuality.sk, sme.sk, pluska.sk, hnonline.sk, topky.sk, pravda.sk, cas.sk, dobrenoviny.sk, dennikn.sk,
  - TV stations: Jednotka, TV Markíza, TV JOJ a TA3[2].

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[1] Authors' note: Weeklies *.týždeň* and *TREND* was not part of the MML-TGI survey. Nevertheless, we consider their inclusion in our research important, as these are weekly newspapers that have a significant position on the Slovak market.
[2] Authors' note: TA3 TV station was not part of the MML-TGI survey. Nevertheless, we consider its inclusion in our research important, as it is important and was for a long time the only news television channel in Slovakia.

Observation period – in our research we will observe a period of more than five years. An important factor for our research is to capture all ecologically significant periods and global events. We will track media content from 4th March 2019 to 25th February 2024.

Ecologically significant periods – World Environment Day (5th June 2019, 5th June 2020, 5th June 2021, 5th June 2022, 5th June 2023), Earth Day (22nd April 2019, 22nd April 2020, 22nd April 2021, 22nd April 2022, 22nd April 2023), Earth Overshoot Day (29th July 2019, 22nd August 2020, 29th July 2021, 28th July 2022, 2nd August 2023).

Global events – outbreak of the COVID-19 virus pandemic (first case in Slovakia – 6th March 2020), outbreak of war in Ukraine – 24th February 2022.

4 Results

In total, we examined media content from 27 media outlets, including daily and weekly print newspapers, online news portals, and television broadcasts, over a period of 260 weeks. During this period, we recorded 25,082 media features that contained the keyword phrases we searched for ("climate change" or "climate crisis"). In the following section, we briefly interpret each media type.

	3/2019 – 2/2020 (Y1)	3/2020 – 2/2021 (Y2)	3/2021 – 2/2022 (Y3)	3/2022 – 2/2023 (Y4)	3/2023 – 2/2024 (Y5)
DAILY NEWSPAPERS					
SME	291	219	300	206	181
Pravda	277	142	233	164	168
Hospodárske noviny	174	101	184	138	121
Denník N	184	109	124	99	148
Plus jeden deň	118	48	95	72	63
Šport	94	33	44	44	40
Nový čas	14	23	35	24	46
WEEKLY NEWSPAPERS					
TREND	50	25	35	56	59
.týždeň	45	25	28	16	18
Plus 7 dní	27	15	9	21	27
Eurotelevízia	13	6	13	13	40
Slovenka	10	11	20	12	10
Život	15	9	8	15	12
Nový čas pre ženy	5	7	2	0	2
ONLINE NEWS					
sme.sk	787	423	691	614	678
dennikn.sk	771	529	521	488	633
hnonline.sk	200	95	418	463	653
aktuality.sk	402	203	333	373	279
cas.sk	296	196	375	272	333

pravda.sk	345	149	242	201	309
topky.sk	331	187	255	229	233
pluska.sk	130	114	173	174	197
dobrenoviny.sk	286	96	62	37	16
TELEVISION BROADCAST					
TA3	969	345	515	772	515
Jednotka	276	176	248	240	267
Markíza	121	54	83	86	134
Joj	71	39	108	118	118
SUMMARY	**6,302**	**3,379**	**5,154**	**4,947**	**5,300**
TOTAL SUMMARY					**25,082**

TABLE 1: *Summary of the frequency of key phrase matches over the entire study period*
Source: own processing, 2024

Daily newspapers – We detected 8,712 matches within the daily print (Table 1, Figure 1). Among all seven daily newspapers, the greatest number of explicit mentions occurred in the daily *SME* (1,197 = 27%). This was followed by *Pravda* (984 = 23%), *Hospodárske noviny* (718 = 16%) and *Denník N* (664 = 15%). The four above mentioned opinion-forming daily newspapers have an 81% share of the total amount of content searched by us (Figure 1). The rest were tabloids and thematic daily newspapers – *Plus jeden deň* (396 = 9%), *Šport* (255 = 6%), *Nový čas* (142 = 3%). Based on this fact, we can therefore conclude that the topic of climate change or crisis is inherent to opinion-forming newspapers rather than tabloids or thematic newspapers.
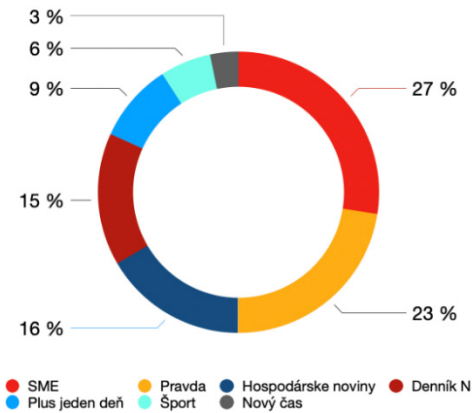
FIGURE 1: *Share of media content with keyword phrases in Slovak daily newspapers in the period 2019 – 2024*
Source: own processing, 2024

Weekly newspapers – We recorded a total of 679 articles with the occurrence of the keyword phrase in the weekly press (Table 1, Figure 2). We detected the most matches in the weekly *TREND* (225 = 33%) and *.týždeň* (132 = 19%). Other weekly newspapers that covered climate change were *Plus 7 dní* (99 = 15%), *Eurotelevízia* (85 = 13%), *Slovenka* (63 = 9%) and *Život* (59 = 9%). The fewest articles mentioning climate change were in the weekly *Nový čas pre ženy* (16 = 2%).
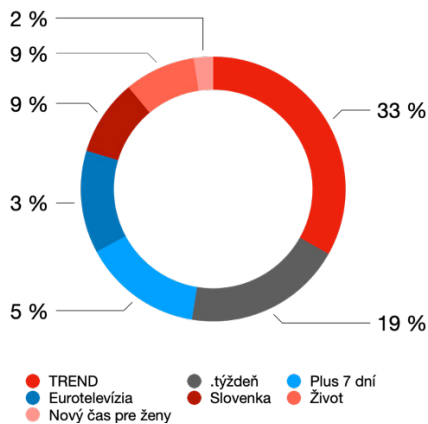
FIGURE 2: *Share of media content with keyword phrases in Slovak weekly in the period 2019 − 2024*
Source: own processing, 2024

Online news – we detected 14,792 media contents with keyword phrases matching in the online news feeds of the nine portals in the period we studied (Table 1, Figure 3). We recorded the highest number of contents in the portal sme.sk (3,193 = 22%) and dennikn.sk (2,942 = 20%). More than ten percent on each portal was detected on portals hnonline.sk (1,829 = 12%), aktuality.sk (1,590 = 11%) and cas.sk (1,472 = 10%). The remaining internet portals had the following distribution of the proportion of reporting on climate change – Pravda.sk (1,246 = 8%), topky.sk (1,235 = 8%), pluska.sk (788 = 5%) and dobrenoviny.sk (497 = 3%).
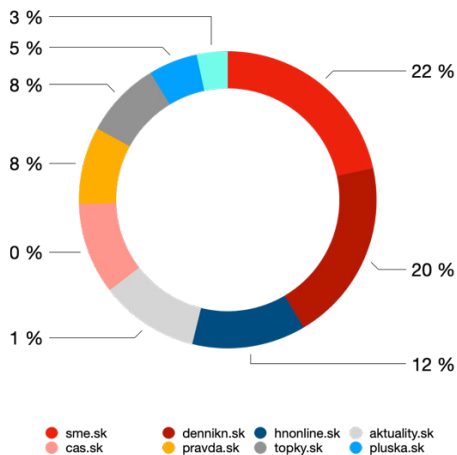
FIGURE 3: *Share of media content with keyword phrases in Slovak online news portals in the period 2019 − 2024*
Source: own processing, 2024

Television broadcasts – we followed the topic of climate change in the broadcasts of four Slovak television channels. In total, we noted 5,255 media contents with the presence of our searched keyword phrases in them. In total, the largest number of keywords appeared in the broadcast of the news television channel TA3 – 2,801 media contents = 59% (Table 1, Figure 4). However, when interpreting the results, it should be considered that news TV stations repeat their content several times during the day. This may be the reason why the topic of climate change is reflected significantly more in TA3. The TV station with the most coverage of the topic of climate change, right after TA3, was public television Jednotka (1,207 = 23%). The remaining two commercial stations had the same share of 9% – Markíza (478 = 9%), TV Joj (454 = 9%).
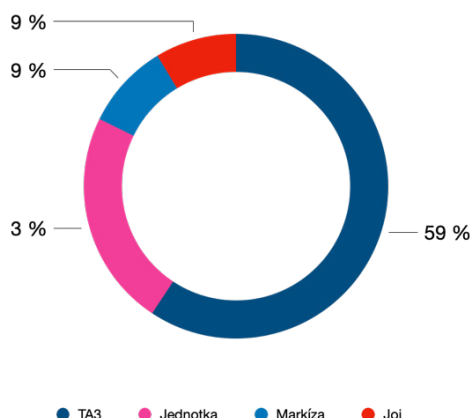
FIGURE 4: *Share of media content with keyword phrases in Slovak online news portals in the period 2019 – 2024*
Source: own processing, 2024

In total, we recorded 25,082 matches (Table 1) over the 260-week time period, which ultimately means that the media outlets we monitored published an average of 96.47 pieces of media content meeting our criteria each week during this period.

A total of 1,580 pieces of media content with the keyword phrase "climate change" or "climate crisis" were published during the fifteen weeks that included the global days under study (Earth Days, World Environment Days and World Overshoot Days). The amount of content published in these weeks corresponds to 6.34% of our research sample. In ecologically significant periods, on average 105.33 media content pieces were published, the median value is 107, the mode value cannot be determined. In the weeks that we do not consider to be ecologically significant, i.e., they did not occur on the days we studied, an average of 95.93 media contents were published (in total – 23,502), the median value is 85. When compared to environmentally significant events, we can confirm our first hypothesis, namely that the topic of climate change would be more prominently featured during this period.
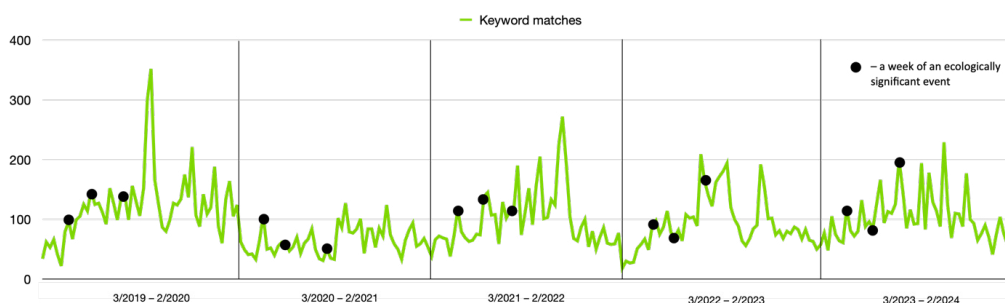
FIGURE 5: *Graph showing frequency of occurrence of keywords during the study period with ecologically significant periods highlighted*
Source: own processing, 2024

By looking at Figure 5 showing the keyword occurrence curve, we can notice that the ecologically significant periods marked by the theme days are in most cases at the peaks. Notable, however, are the significant infusions of the climate change theme into mainstream media content in Slovakia in other periods. As we can see in Figure 6, during the weeks in which ecological theme days occurred, the number of matches with the keywords we searched for did not once represent an annual high. In the Slovak media, the highest media matches can be observed mainly during conferences or political meetings where the state of the planet's climate is discussed. The first ever massive penetration of this topic into the mainstream media

environment in Slovakia was the situation in September 2019, when the UN climate summit was held in New York, and which was accompanied by mass demonstrations all around the world, including large protests in Slovakia. This was the event when the topic of climate change had the highest coverage in the Slovak media over the entire period under review (Figure 6). An example of when the topic of climate change can be more widely discussed was also the situation in October 2023, when the competence of a possible new minister of the environment was debated during the formation of the new government.
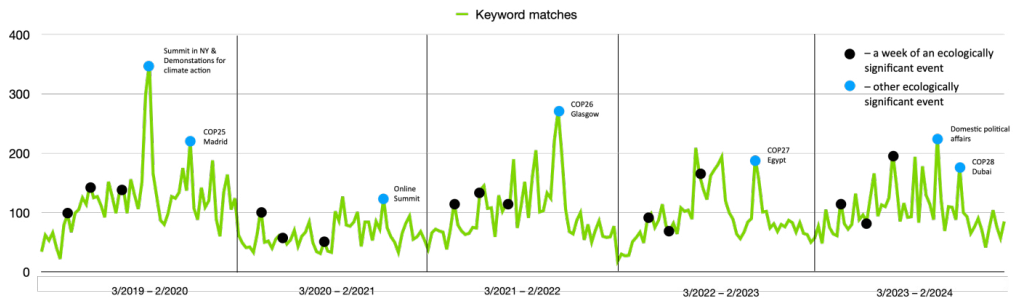
FIGURE 6: *Graph showing the frequency of occurrence of keywords during the period under review, indicating observed ecologically significant events in combination with other ecologically significant events such as international summits*
Source: own processing, 2024

In general, it can be argued that the topic of climate change is covered to a greater extent on our selected theme days than in other, less environmentally significant periods. However, it turns out that these events fail to receive the same amount of coverage as, for example, international conferences or other events that are often related to politics.

Global events that could have a direct impact on the media coverage of climate change are the COVID-19 pandemic and the start of the war in Ukraine. The first recorded case of the disease in the Slovak Republic dates to 6th March 2020. The war in Ukraine started in the early hours of 24th February 2022. We therefore focused on the representation of the topic of climate change on ecologically significant days in these years (Table 2).

	Earth Day	World Environment Day	Earth Overshoot Day	Year Summary
2019	97	148	136	**381**
2020 (C)	107	62	51	**220**
2021	117	74	114	**305**
2022 (W)	89	70	164	**323**
2023	119	85	147	**351**

TABLE 2: *The sum of content with keyword phrase occurrences in weeks of global ecology days 2019 – 2023*
Source: own processing, 2024

As we can see in Table 2, the rate of information in years or periods that were affected by major societal events is different than in years when nothing significant happened. In the first year under review, climate change was mentioned in 381 media content pieces during all three significant ecological periods under observation. In 2020, the year of the COVID-19 pandemic, there were 220 such media pieces. It is also important to note that since the pandemic broke out in the early part of 2020, media coverage of the pandemic in the early months was logically stronger, as it was a new phenomenon. This coverage might have largely influenced at least the first two theme days, which are Earth Day (22nd April annually) and World Environment Day (5th June annually.) In the third year under observation, which was not significantly marked by

a societal event, the level of climate change coverage during the theme days increased again. In total, we captured 305 pieces of content with keyword phrase occurrences during this period. The fourth year was marked by the outbreak of the war in Ukraine. Similar to the start of the COVID-19 pandemic, the war started at the beginning of the year. This situation could therefore clearly have influenced the information during Earth Day and World Environment Day. World Overshoot Day, which had been set for 28th July that year, was apparently already being shaped to a lesser degree by the ongoing conflict. We captured 323 pieces of media content this year, of which 164 were noted during World Overshoot Day. In the most recent year monitored, we recorded 351 pieces of content with the key phrase appearing during the weeks in which the themed days were located.

A total of 1,037 pieces of content with occurrences of the keyword phrases we searched for were published during the weeks in which there were ecologically significant days, in years with no extraordinary socially significant events. On average, this amounts to 115.22 content pieces per such week (median value is 117). In the years when the COVID-19 pandemic and Russia's war with Ukraine broke out, we cumulatively recorded 534 content pieces mentioning climate change in those weeks. On average, this amounts to 98 pieces of content published in a single week (median value is 79.5; mode value could not be determined). Thus, we note that the rate of climate change information during ecologically significant periods was reduced in years that were marked by major global events. We therefore confirm our second hypothesis.

5 Discussion

Climate change is reflected to a certain level in the Slovak media. In our data we can see the development in media coverage. We can argue that the media only started to cover climate change more systematically in September 2019, when some of the first public demonstrations were held, where the public called on the authorities to take action to counter climate change. This can also be seen in the additional Figure 7. This chart shows the frequency curve of matches of the key phrases we searched for in Slovak online media from 2012 to 2021. It clearly shows that the events in September 2019 caused the greatest coverage of climate change in Slovakia. These data are also the reason why we examined the period around 2019.
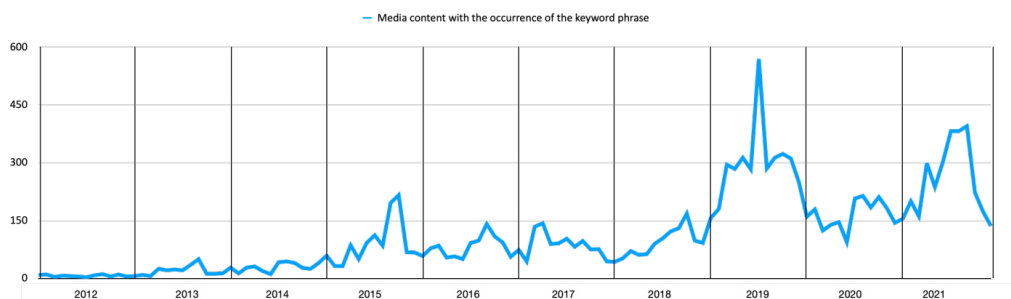
FIGURE 7: *Graph representing the frequency of occurrence of keywords phrases "klimatická zmena" or "klimatická kríza" in Slovak online media between 2012 and 2021*
Source: own processing, 2024

The period of recent years has been significantly marked by events that have had a major societal impact. The COVID-19 pandemic affected the whole world, not excluding Slovakia, and the conflict in Ukraine is also a very important issue for Slovakia as a neighboring country. Both events will simply receive media coverage, and at this point we would like to declare that we consider this to be appropriate. However, there is also a scientific consensus that climate change is slowly bringing a crisis with it that may be significantly more dramatic in its nature than any societal event

that we have ever experienced. Our analysis has shown that media coverage of these events has had an impact on climate change media coverage, which also seems logical given what we said about the presentation of the topic of climate change in the introduction to the study. Climate change is largely an abstract phenomenon, the consequences of which are not as obvious as, for example, the immediate statistics of hospital admissions or the number of casualties of war. Nevertheless, we would like to present a comparison between the media coverage of COVID-19 and climate change. In Figure 8 we can see a summary of the keyword matches related to climate change between the years 2019 to 2021. In Figure 9, this graph is extended with a curve showing the matches of keywords related to climate change, but also of keywords related to COVID-19. We note that the green curve in both graphs shows the same data, but on a different scale.
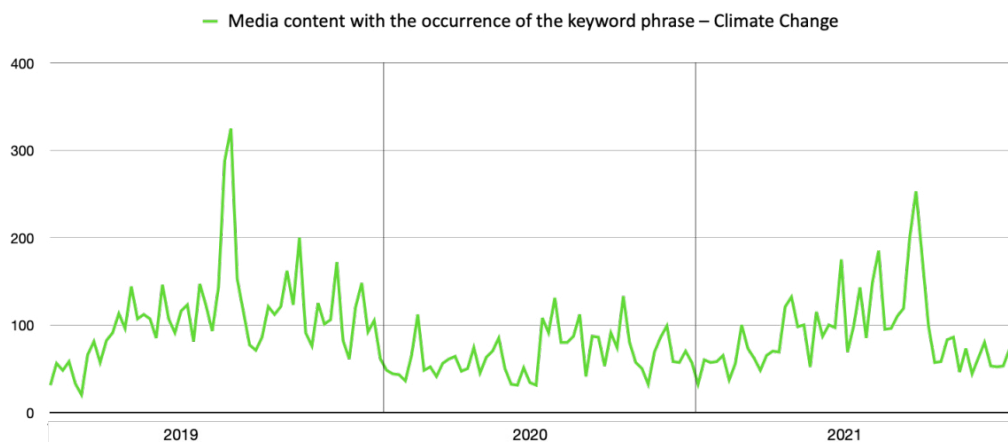
FIGURE 8: *Graph representing the frequency of occurrence of keywords phrases "klimatická zmena" or "klimatická kríza" in Slovak mainstream media during 2019 – 2021 period*
Source: own processing, 2024
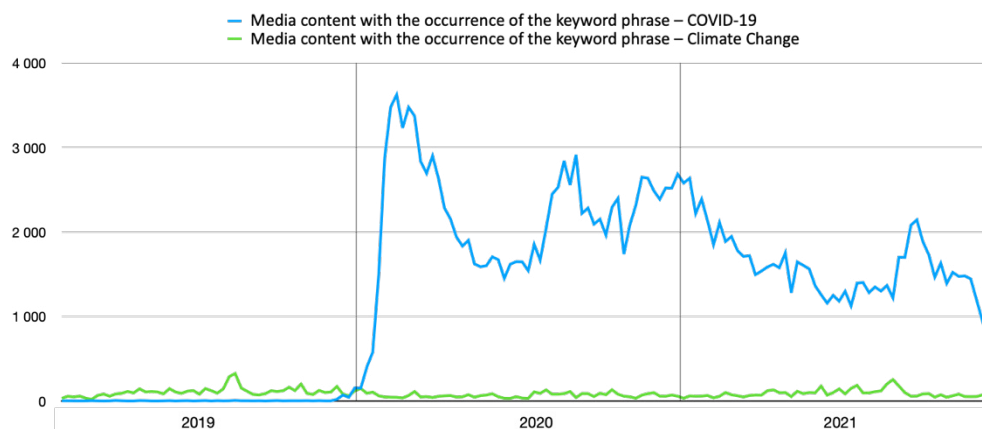
FIGURE 9: *Graph representing the frequency of occurrence of keywords phrases "klimatická zmena" or "klimatická kríza" (green curve) and "COVID-19" (blue curve) in Slovak mainstream media during 2019 – 2021 period*
Source: own processing, 2024

As we have already said, it is natural that a topic such as COVID-19 will receive more media coverage. At the same time, we are also aware of the fact that the occurrence of the keyword COVID-19 or coronavirus has been significant, and we can already say from our own experience that this term may have appeared in media content that did not primarily have pandemics at its core. Even so, we find it important to point out the significant difference in the level of coverage

of these two important phenomena. Another research finding is that climate change receives more media coverage during periods marked by the occurrence of political summits where "green policies" are discussed.

Before the final summary, we would like to take a short and brief note on the advantages and limitations of the main research method used. We consider the possibility of examining a wide time span with a relatively large media sample to be an advantage of the chosen research approach. On the other hand, we are aware of the shortcomings and limitations of the research, among which we can clearly include the possibility of the absence of a key phrase in the media content (e.g. article about impact of using public transport on climate without using the phrase "climate change"), or the limitations with the software used, such as the possibility of insufficient archival sources. A deeper exploration of the issue, for example by using more extensive qualitative content analysis, would also be relevant. Another factor to keep in mind when interpreting the results of this research is the measurement of keyword phrases matches in weeks. While our research focused on ecologically significant days, we chose to record matches at weekly intervals. We did so for several reasons. One of them is the fact that we did not, for example, focus only on news coverage but also on more long-term journalistic content, which may not naturally reflect the topic on the exact day. An example of this is weekly newspapers, which are very likely to simply not be published on a given theme day. Measuring in weeks may therefore also introduce the disadvantage of bias, as there may have been another event in each week that may not have been related to that theme day. For example, in 2021 Earth Day was on a Thursday, the media could have easily reflected it on a Friday in the context of climate change. On the contrary, in the same week on Monday, the media could have featured content that contained the key phrase we searched for, but which was unrelated to Earth Day. Nevertheless, we do not consider such a scenario to be probable in the final analysis.

6 Conclusion

Our study focuses on the presentation of climate change in the Slovak mainstream media between 2019 and 2024. The period under study captures the first massive penetration of the topic into the media agenda, as well as societal events, such as the beginning of the COVID-19 pandemic and the beginning of the Russia-Ukraine war. Using quantitative content analysis, we examined content in 27 Slovak media outlets, including print daily and weekly newspapers, online media, and television broadcasts. In total, we recorded 25,082 media contents that contained our search keywords ("climate change" or "climate crisis"). Media coverage was recorded in weeks. We focused more specifically on thematic days to which we attribute ecological relevance. Specifically, these were Earth Day, World Environment Day and World Overshoot Day. Our main research question was to discover how the level of coverage evolves on these themed days. We confirmed our first hypothesis, that is, that the media report more on climate change on these days. It turned out that the media generally talk about climate change more during these themed days than during other less environmentally significant periods. However, another finding was that these days generally cannot be considered as periods during which climate change is most frequently reported in the media. It turned out that climate change was mentioned much more in the context of international conferences (e.g. COPs) or other political events. Our second hypothesis was that information rates decreased in periods that were marked by global events of a negative type and in ecologically significant periods. We also confirmed this hypothesis. Both global events mentioned above, i.e., the onset of the COVID-19 pandemic and the outbreak of war, date to within quarters of the years in question, similarly to the ecologically themed days – Earth Day and World Environment Day. In both cases, the rate of climate change information on these days has declined over the years of negative global events. Thus, we are of the opinion that this was precisely because of the media coverage of these two phenomena.

Media reporting on climate change is quite complex. This is shown both by theory and by the results of our research. It is a challenge for media editors to communicate clearly and comprehensibly about an issue that may not have clear outlines at first glance. However, how they approach the presentation of the topic is even more important. In our opinion, it is also important to continually look for non-political links to the phenomenon of climate change in order to raise awareness of this global issue.

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John Nuestro Ponsaran

Counter-Discourses in Political Economy in/through Media Literacy Education

ABSTRACT

For this critical inquiry, the overarching goal is framed along the pedagogical imperative of surfacing the counterpoints and countercurrents in the rendering and representation of development discourses in the textbook task section of media and information literacy instructional materials. In making perceptive sense of this type of didactic media, the researcher worked on the fundamental assumption that textbook tasks "provide the terrain where meaning is shaped" (Hall, 1973, as cited in Griffin, 1991, p. 312) and, more compellingly, where the discursive intentions of the text producers (i.e., textbook authors) are expressed, enacted, and even questioned. Along this line, the textbook task section serves as a critical and potentially a transformative component of the ideological and discursive landscape. Embodied in the authors' social mediation in the textbook tasks are converging and diverging discourses in apprehending the word (i.e., text) and the social world (i.e., context). By employing critical discourse analysis that interrogated the textual, processual and contextual dimensions, this study specifically sought to unravel and examine the counter-discourses about the material/nonmaterial realities of development/underdevelopment in various but interconnected realms of mainstream economy, politics, media, communication, and culture. Based on this research, among the alternative discourses that emerged from the thematic analysis are those that concern and revolve around (1) political values and ideologies, (2) ethical choices and practices, (3) development challenges and issues, and (4) strategic approaches and interventions which altogether complementarily contribute to the advancement of media freedom, pedagogical reform, and development justice.

KEY WORDS

Counter-Discourses. Critical Media Literacy. Critical Discourse Analysis. Media Literacy Education. Political Economy. Pedagogical Reform. Textbook Industry.

1 Introduction

In media and information literacy, student tasks and assessments are crucial in the process of academic training (i.e., functional literacy) as well as social justice education (i.e., critico-ideological literacy). Students learn and acquire knowledge, skills, and values from "what a task leads them to do" (Doyle, 1983, as cited in Bakken & Andersson-Bakken, 2021, p. 729). In the teaching-learning process, learners imbibe the socio-academic culture into which they are inducted and, essentially, this discursive experience encompasses the instructional materials that they utilize and the corresponding tasks that they carry out. Within this context, textbooks and the tasks contained therein must be perceived as value-laden discursive instruments. As such, textbook tasks cannot be conceived to be divorced from the politico-ideological and socio-educational situatedness of their discursive conception as well as potential discursive transformation. However, mainstream curriculum developers and implementers tend to underestimate the potential of textbook tasks in engendering critical pedagogy and alternative media education. As such, this paper argues about the need to concretize this counter-discursive potential of textbook tasks and the imperative to institutionalize and sustain this transformative, liberating, and enabling social practice. For instance, in the Norwegian natural science textbooks examined by Andersson-Bakken et al. (2020), it was revealed that the instantiation of socio-scientific issues in selected chapters of natural science textbooks contributed to the higher-order thinking skills of the learners, underscoring how a consciously designed textbook task can bring about a comparatively better pedagogical outcome.

As a learning device, the textbook task also offers the students the opportunity to (1) apply knowledge, (2) create new knowledge, and (3) even interrogate prevailing knowledge systems. This, however, depends mainly on how the academic authors discursively and alternatively ask questions, present issues, and require interventions to actual or hypothetical politico-economic challenges. Based on the foregoing assumptions, this research question was formulated: Consistent with critical media education, what inter-animating counter-discourses about media, education, and development are espoused and expounded by the academic authors in Media and Information Literacy textbook tasks?

Along this line, the central objective of this critical inquiry seeks to (2) foreground the counter-discourses in media and society that were embodied and interwoven in the textbook tasks and, correspondingly, (2) develop thematic and analytical categories based on these emerging counterpoints and countercurrents. Within the parameter of this qualitative research, counter-discourses are defined as *discursive countercurrents* about the political economy of media in relation to education and the broader development ecology that must coherently inform and influence the conceptualization and formulation of the substantive dimension of textbook tasks, and that must alternatively guide the students in representing and making sense of social realities.

There has been an increasing interest in studying textbooks as political and communication artifacts (Limage, 2005; Hickman & Porfilio, 2012; Fuchs & Bock, 2018); however, only very limited attention is being accorded to the systematic analysis of textbook tasks, and none thus far utilizing critical discourse analysis. Researches employing critical discourse analysis within the last decade or so cover English teaching (Alford, 2015), online media discourse on education-related problems in the pandemic context (Pendri et al., 2024), English language composition (Orr, 2007), citizenship education (Gonsalvez, 2013), media education (Molek-Kozakowska, 2010), Saudi English language blogs (Al Maghlouth, 2017), presidential campaign speeches (Post, 2009), African empowerment through speeches (Igbashangev, 2024), newspaper commentaries on terrorism (Wang, 2006), newspaper articles declaring the outbreak of war in Ukraine (Alyahya, 2023), melodramatic films (Santiago, 2007), social construction of disability identities (Sudajit-apa, 2017), place-based identities (Wiehe, 2013), and toy advertisements (Santikul, 2024), among others.

The textbook task as *paratext* is seldom given proper notice in the analysis and evaluation of academic materials despite its crucial role in enhancing and enriching the learning experience, as well as in contributing to the deepening and sharpening of the students' community consciousness, democratic commitment, and social justice orientation. Within this context, paratext is defined as a "separate textual element that surrounds the main text", serving as a "zone not only of transition but also of transaction" (Genette, 1997, p. 2).

This qualitative study, therefore, sought to fill a research gap in "focus" and in "analysis" by attempting to surface and examine the counter-discourses that are encoded and embedded in Media and Information Literacy textbook tasks as socio-instructional devices. By analyzing the counter-discourses, this study was able to reveal and explicate the meanings behind the textual instantiations and articulations as expressed in the textbook tasks by the authors as media creators.

1.1 Institutional and Discursive Controls

As a discursive practice in the education industry, textbook task design needs to be understood within the context of how "institutional controls are exerted" (Bonvillain, 2008, p. 385). Constituting the substantive and structural influences in this set of institutional mechanisms are the existing K to12 (Kinder to Grade 12) Senior High School (SHS) curriculum and the Media and Information Literacy (MIL) curriculum guide, as well as the prevailing academic practices and formatting standards in textbook writing and textbook task design. Conceivably, these social controls would encompass not only the coded/overt dimensions (e.g., alignment with the prescribed curriculum) but also the uncoded/covert social norms (e.g., ideological considerations).

Within this context, cultural theorist Angela McRobbie (2005) refers to *ideological work* as "requiring the gathering and selecting of items for inclusion and organizing while also implementing certain technical and professional code of practice" (p. 11). While this definition is situated within the confines of television programming, it however can also be applied to textbook as a form of didactic media. As such, textbook task writing can likewise be apprehended as ideological (and counter-ideological) work that involves the crucial decisions of what topics (and subtopics) are to be included or excluded, what issues (and sub-issues) needed priority and focus, and what discursive approaches (and sub-approaches) must be employed and deployed. This set of discursive practices is carried out and governed by certain conventions in textbook task design (e.g., in-house editorial policies, manual of style, table of test specifications, and UNESCO framework, among others) that form part of the "technical and professional code of practice" (McRobbie, 2005, p. 11).

1.2 Discursive Purpose of Questions

Linguist Angeliki Athanasiadou (1991) maintained that "at the outset of a question, contextual and/or pragmatic information is present in the speaker's mind" (p. 107). This, therefore, points to the fact that every question has an underlying intention that reflects the social position, ideological standpoint, and values orientation of its source. She added that question as a "speech act" also reveals the social relationship that is involved in the communicative event. In the case of questions that are contained in any textbook task, the norm that conventionally governs the socio-academic relations between the textbook writers and the student-learners is "authoritative". This norm-based interaction, she pointed out, renders the mode of questioning structured and predictable. Following Athanasiadou (1991), the authors' intention in the specific case of this qualitative inquiry is a crucial determinant of the speech act's formal and didactic

structure. Both the overt and covert meanings of the question, therefore, can be derived from the authors' positionality (i.e., achieved and/or ascribed status) and intentionality (i.e., motivation). Unequivocally, in the typology of modes of questioning that she developed, the questions in the textbook tasks fall under the *examination type*, i.e., assessment of the learners' knowledge, competencies, and values. Within this communication context and given the social relationship involved, textbook task by its very nature not only seeks to instruct but also to persuade, command, and, ultimately, control. This speech context presupposes that the author is in a dominant position and that the learners must only comply and supply the appropriate answer or response. However, this does not have to be always the case because the question in its *critico-political* form and rendering can, in fact, interrogate mainstream discourses as well as instantiate and articulate counter-discourses about media, education, and the broader development ecology. In a study by Dadakhonov (2024), he outlined a comprehensive set of key mechanisms where media and information literacy can be strategically optimized (and in the context of this study also critically interrogated) in the broader system of education. Conceivably, the following can be selectively integrated and applied in conceptualizing an alternative textbook task design: curriculum integration, teacher training, digital infrastructure, international collaboration, public awareness, media literacy projects, assessment and evaluation, research and data collection, cross-disciplinary approach, civic engagement, local content creation, partnership with tech companies, feedback mechanisms, policy development, inclusivity, measuring impact, and long-term commitment.

2 Framework and Methodology

Educator and anti-oppression advocate Connie North (2009), in her book *Teaching for Social Justice? Voices from the Front Lines* explored how "functional, critical, relational, democratic, and visionary literacies" (p. 5) can be strategically employed to teach and instill social justice praxes among the students. For North (2009), these 'multiple literacies' are requisite competencies essential "to excel at schooling and to effect positive change at the local and more global levels" (p. 5). Each competency brings about immense possibilities and potentialities, i.e., (1) gain "access to academic opportunities" (functional), (2) "confront unjust elements in the status quo" (critical), (3) "meet human beings' fundamental need to be cared for" (relational), (4) "promote mutual understanding and informed decision-making on issues impacting the common good" (democratic), and (5) "engender and sustain students' and teachers' commitment to engage the world as agents of change" (visionary) (North, 2009, pp. 5-7; Gutstein, 2002, as cited in North, 2009, pp. 5-7; Stoval, 2006, as cited in North, 2009, pp. 5-7). The complementary roles of these multiple literacies become even more impactful when applied and activated "in" and "through" media education. Accordingly, instructional materials in media and information literacy education must not only accomplish the purpose of improving the aptitude level of learners (i.e., functional literacy) but, more crucially, serve as empowering platforms and instruments to engender ethics of care (i.e., relational literacy), consciousness-raising (i.e., critical literacy), inclusive decision-making (i.e., democratic literacy), and thoroughgoing change (i.e., visionary literacy).

Deplorably, progressive communication researchers contend that mainstream media scholarship tends to raise questions that are "not really the important ones when it comes to understanding the role of mass media in society" (Turow, 2011, p. 137). This lamentable pattern foregoes the potential of communication and media inquiry in contributing to both areas of critical media scholarship and social justice communication. Development Communication scholar Higino Ables (2003) had a similar observation in many journal publications where "answers to questions have been found wanting" (p. 135), arguing further that cultural studies and critical media theories must be taken more seriously. In view of these postulations,

alternative communication research thus becomes even more compelling and transforming if situated within the interconnected domains of media, education, politics, ethics, and development. As such, the central role of the critical tradition in communication and media studies cannot be overemphasized in view of its all-embracing objectives of fostering "(1) reflexivity, (2) a capacity for fantasy, and (3) a new basis for praxis in an increasingly alienated world" (Bronner, 1994, p. 3). Correspondingly, these interanimating goals are critical in envisioning and bringing about a collectively determined future that is achievable, inclusive, and life-affirming.

2.1 Critical Theory: Making Sense of the In-betweens and Unseen Connections

This qualitative research falls under the critical tradition or the discourse of suspicion (Mumby, 1997). As a counter-paradigm, the critical theory exposes and opposes the deeply rooted structures of domination based on various social identities such as class, ethnicity, gender, age, ability, faith, heritage, geographical location, and ideology that may appear in overt and covert ways in social relationships and interactions.

In particular, this qualitative study adopts the three mutually reinforcing attributes of the critical theory forwarded by Max Horkheimer (1972), i.e., being explanatory (exposition), normative (opposition), and practical (proposition), aimed at (1) revealing contradictions among the social forces in media, education, and the broader development context, (2) providing a normative lens to examine and challenge the prevailing structures of social inequality and oppression, and (3) creating an alternative and liberating social order that will replace the old arrangement. Within the context of this social inquiry, this set of critical attributes can then be used as frameworks in conceptualizing and integrating counter-discourses in textbook tasks.

As cultural apparatus, hegemonic textbooks breed ideological colonization by immortalizing mainstream perspectives and functioning practically as an unchallenged "thought police" that bring about far-reaching consequences, not only to functional literacy but also to the political education of the community of learners. From the critical perspective, communication artifacts and knowledge products such as orthodox textbooks and the set of tasks contained therein function as "social texts", which can then be subjected to discursive inquiry, contestation, and, more crucially, transformation.

Discourses provide the social, communicational, and linguistic bases in critically apprehending and making sense of the "in-between areas of how overarching and long-lasting ideologies become part of daily practices" (Branston & Stafford, 2010, p. 172). The context-dependent, communicative, and purposive nature of discourses also allowed the researcher to reveal the ideologies that underpin the patterns of messages and meanings across the texts under review, thus enabling them to surface and examine the "transparent" as well as the "opaque" structural connections between the discursive orientations, pedagogical values, and task designs (Wodak & Meyer, 2001). In the incisive exposition of Čiderová and Belvončíková (2024), they foregrounded how the inter-animating skills of 'knowing where', 'knowing whether', 'knowing why', and 'knowing better' all contribute to media and information literacy and, as such, can therefore help reveal both the information source and the learners' respective positionalities and standpoints.

The corpus of texts covered by this critical qualitative inquiry is the set of commercially available Media and Information Literacy textbooks that are compliant with the existing Philippine K-12 (Kinder to Grade 12) Senior High School curriculum. This choice of instructional materials for critical discourse analysis allowed the researcher to cover a diverse but comparable textbook selection from various local academic publishing firms and those which are produced by Filipino authors (i.e., privately commissioned educators and writers from a range of disciplines

and subfields). As a constitutive element of the cultural and creative industry, the decision to focus on the commercially available instructional materials afforded this research to situate and explore the textbook tasks contained therein within the context of the prevailing market-oriented socio-economic order.

The instructional materials covered by this discursive inquiry include *From Cave to Cloud: Media and Information Literacy for Today* (Campos, 2016); *Media and Information Literacy* (Cantor, 2019); *Media and Information Literacy* (Liquigan, 2016); *Media and Information Literacy (Enhancing Education through Effective Communication)* (Magpile, 2016); *Media and Information Literacy: Being a B.E.S.T. Digital Citizen for Senior High School* (Yuvienco, 2017); and *Media and Information Literacy* (Zarate, 2016).

2.2 Critical Discourse Analysis: Revealing the 'Social Story behind the Story'

In conducting critical discourse analysis, it is crucial to begin the task by understanding that the term 'critical' emerged from the Greek word *krinein* which means to "separate", "discern", "judge" or "choose", strongly implying the need to pursue a "conscious, deliberate inquiry" and to take "a skeptical state of mind" (Barnet & Bedau, 2011, p. 3). To be critical, therefore, demands informed decision-making and active position-taking, especially on complex and contentious development and policy issues.

Considering its unmistakably dialectical stance, critical discourse analysis directs the focus of this research to the contradictions between the "dominant and subordinate discourses" as well as the various "notions of resistance and appropriation of discourse" that are at play (Williamson et al., 2018). Such notions of dominance and resistance are conceived to glaringly manifest in the discourses and counter-discourses in textbook tasks. The elucidation that follows best exemplifies the politico-ethical roles (i.e., reflective, investigative, normative, prescriptive, and transformative) that this discursive-analytic framework fosters, represents, and can potentially enact, to wit:

> In doing so, critical discourse analysis not only captures something important about the social world, but also play a key ethical and political role in showing how social phenomena are discursively constituted: it demonstrates how things come to be as they are, that they could be different, and thereby that they can be changed. (Hammersley, 2003, as cited in Williamson et al., 2018, p. 470)

Critical media discourse analysis which was adopted for this social inquiry rests on the fundamental premise that *language use* is a (1) culturally influenced, (2) historically determined, and, most certainly, (3) a politically contested social practice. Drawing on Stuart Hall's (1973) critical exposition, the power structure that governs the social relationships between groups when encoding and decoding texts may appear and manifest as reinforced (i.e., hegemonic), negotiated (i.e., both hegemonic and counter-hegemonic) or interrogated (i.e., counter-hegemonic), depending principally on how these texts were ideologically positioned and deployed. As such, in this critical research, textbook tasks were explored and evaluated as "socially constructed and socially contested cultural and material artifacts" (Zagumny & Richey, 2012, p. 195) that mediate the idea about the social world and the patterns of social relationships that characterize and constitute it.

3 Results

Based on the critico-analytic examination of Media and Information Literacy textbook tasks, the following counter-discourses emerged as embodiments and expressions of how the academic authors mediate to the learners the contemporary *development challenges* and the *discursive alternatives* of making critical sense of their structural roots, complex dimensions, and social implications.

3.1 Counter-discourse on Values

From the critical standpoint, media literacy education is essentially *value-laden*. Apprehending it in this light will allow the students to realize how their system of valuation shapes the media products they create (and co-create) as well as consume (and co-consume). It will also enable them to determine whether media contents conform with or deviate from their collective interests and aspirations. Likewise, it will guide them in critically identifying and analyzing what value systems and knowledge claims are privileged (or muted) in their media creation, contribution, circulation, and consumption.

In the following questions below, the textbook authors sought to surface the values and counter-values that are embodied in the advertisements and newscasts in terms of representation, framing, and the cultural logic behind the chronology:

- "Should global news be on ground level showing footages of death and destruction? What values are gained by the producer/consumer of graphic news that show death and destruction?" (Campos, 2016, p. 76).
- "After close examination and analysis, convey now the values implicitly underpinning the chronology of today's news telecast" (Zarate, 2016, p. 93).

Consistent with the discourse of suspicion (Mumby, 1997), the questions must ultimately reveal the social groups to whom media and technology are most beneficial or detrimental. Such inquiry can only be decidedly answered when the powerful social forces controlling media resources and technologies are identified, unmasked, and interrogated. The questions that follow underscore the fact that media resources and technologies are, in fact, *not* neutral devices and hence they serve a particular class interest and sectoral agenda:

- "Who benefited the most when the new invention became a social necessity? Which authority, institution or investment was magnified when the new invention became necessary?" (Campos, 2016, p. 33).
- "Who was on the losing end when it became a social necessity? Which authority, institution or investment was threatened when the new invention became necessary?" (Campos, 2016, p. 33).

As an issue of social justice, the crowding out phenomenon in news reporting that Campos (2016) foregrounded by instantiating the case of a controversial celebrity vis-à-vis the compelling issues of national significance will allow the students to reflect deeply if the set of news and information that they receive from mainstream media is indeed reflective and representative of the social and sectoral concerns in the Philippines in terms of impact, relevance, and criticality. Citing the issue of "imbalanced news", Campos (2016, p. 72) also expressed his deep concern about how media renders its reportage as too mainstreamed (and hence uncritical and undiscerning) and how it seeks to lamentably prioritize sensationalized news stories instead. Questions pertaining to this lopsided reporting allow the students, as critical media consumers, to understand that the news which end up being aired and disseminated are, in fact, products of a complex process of vetting and power play. It also affords them the opportunity to reflect

about the negative implications of the public developing greater interest in issues involving celebrities than in matters of more serious social and sectoral concerns.

3.2 Counter-discourse on Ideology

Social scientist Josefina Tayag (1995) defined ideology in two senses, i.e., minimal and maximal. Minimally speaking, Tayag referred to ideology as the "belief system or set of values and goals used to guide people's actions, often individually or personally held" (Tayag, 1995, p. 8). On the other hand, she characterized ideology in the maximal sense as "a set of shared fundamental values and beliefs, a theory of man and society all aimed at defining the vision of an alternative future together with a concomitant action component" (Tayag, 1995, p. 8). Ideology, in the maximal sense, therefore, involves the conscious, active, and collective commitment in achieving the desired alternative social condition and arrangement. In the discursive practice of formulating textbook tasks, the role of ideology both in the minimal and maximal sense is observed to be far-reaching and consequential. In the minimal sense, ideology played an important role in shaping the development of the textbook tasks by the individual author, especially if apprehended based on how ideology manifested in the instructional material's substantive (i.e., content/theme) and structural (i.e., format/style) dimensions. In the maximal sense, on the other hand, ideology can be potentially concretized and enacted when a critical group of textbook authors from a particular discourse community (or sub-community) mobilizes their ranks and develops a version of counter-textbook (or counter-curriculum) that will challenge the conventional template and archetype. Likewise, ideology in its maximal sense can be applied when the textbook tasks are carried out by the learners and their interlocutors and collaborators from the community in a manner that involves their shared vision and action (Tayag, 1995). Along this line, ideology in the maximal sense is strongly associated with the stage-by-stage process of accomplishing *critical praxis*, i.e., "self-reflection, reflective action, and collective reflective action" (McLaren & Crawford, 2010, pp. 615-616).

While the following questions pertaining to ideology are very relevant in interrogating popular culture, xenocentrism, and 'film as text', respectively, they are however purely self-reflective and hence do not involve collective action, thereby qualifying only as ideological in the minimal sense based on Tayag's conceptual framing. Nonetheless, it must also be recognized that invoking ideological analysis as part of media text analysis is already a crucial first step towards critical praxis given the prevailing depoliticized pedagogical culture in basic education.

- "How do the new elements purvey a different kind of ideology from other soap operas?" (Zarate, 2015, p. 105).
- "How can indigenous knowledge or media help balance the influx of foreign ideas and ideologies?" (Liquigan, 2016, p. 113).
- "How does a film become an ideological tool?" (Liquigan, 2016, p. 185).

3.3 Counter-discourse on Choice and Change

In the business context (and within the parameter of the business model), change is commonly conceived and applied in its incremental degree and not in the revolutionary or radical sense. In his reflection questions, Campos (2016) insinuated this critical insight and pointed out that businesses thrive in introducing "little innovations" and rely instead on the illusion of choice guilefully crafted and perpetuated by commercial marketers and advertisers. This explains why the pattern of rendering tends to orient more towards conservatism and the reactionary tradition. Questions of this nature will allow the learners to interrogate the orthodox notions of choice and change as observed in the corporate realm. From the critical vantage

point, this set of perceptive questions is also applicable when extended and articulated within the context of dysfunctional Philippine political and electoral system given its similar reactionary attribute and concomitant conception of the 'myth of choice'.

- "How is the success of a business dependent on the little innovations over time rather than on one-time big inventions?" (Campos, 2016, p. 34).
- "If two rival companies introduce little innovations that have practically the same function on the technology, what do you think would be the determiners for success of one company over the other?" (Campos, 2016, p. 34).

In his prelude, Campos (2016) foregrounded the prevailing prohibitive cost of "airtime and column space" in mainstream media and, in relation to this, he then asked if individuals and institutions "will tend to invest in messages that will be very different from dominant messages or more of the same" (p. 66). To problematize this pattern of cultural homogenization, Campos (2016) also inquired if the "risk of cost and investment predispose competing media companies to capitalize on difference or samenesss" (p. 66). This task lets the students critically ponder whether the risks involved in the act of investing leads to more heterogeneity or homogeneity of products and services. This then points to the illusion of choice that the willing but unsuspecting media consumers have long been exposed and accustomed to. His follow-up reflection question asking the learners about the implications of smaller business entities failing to afford the skyrocketing cost of advertisements underscores the grossly inequitable character of the commercial sector (i.e., cut-throat competition). The illusion of choice in the marketplace continues to obscure and dull the public consciousness and, accordingly, this marketing strategy is reinforced through the methodical use and placement of mind-conditioning commercial advertisements. Probing questions are, therefore, helpful in making learners understand the complex network and unholy alliance of business forces (i.e., commercial enterprises, media organizations, and marketing firms) that dominate the economy, influence the government, and manipulate the consuming public.

- "Can startup companies, perhaps with better products or services, compete with those that can buy prime airtime?" (Campos, 2016).

3.4 Counter-discourse on Business Model and Practice

The critical paradigm looks deeply into the structural dimensions of power, and when applied in media studies the emphasis centres on how the monopoly of media ownership impinges on media freedom and responsibility. Through the adoption of critical political economy, the learners will be able to grasp how the dialectical interplay of the substructure (i.e., economic) and the superstructure (i.e., political, cultural, legal, philosophical, and moral) influences media as a constitutive social institution. In the textbook tasks instantiated by the academic authors, the following issues pertaining to the political economy of media were foregrounded for critical exploration and analysis: "media monopoly" (Liquigan, 2016; Campos, 2016), "duopoly" (Campos, 2016), "network and ratings war" (Zarate, 2016), "conglomerates and interlocking directorates" (Zarate, 2016), "bureaucrat capitalism" (Zarate, 2016; Campos, 2016), "media as business" (Zarate, 2016; Campos, 2016), and "corporate sponsorships" (Campos, 2016).

To specifically illustrate how the market model operates, Zarate (2016) requires the learners to account the ratio of print advertisement space in relation to that of the news content in published newspapers. Through the exercises featured below, the students will be trained to (1) quantify the media organization's corporate revenue through commercial advertisements and (2) qualify the strength of its economic, business, and political influence. Through this set of well-thought-out questions, students will realize how ordinary folks are rendered voiceless

and invisible in the entire conversation (i.e., subalternity), making them passive recipients of media contents:

- "Try to count how many print advertisements are in the newspaper. Approximate the amount of space they occupy, probably using square inches. Express the ratio of the space occupied by news and other feature articles to the amount of space given to the print advertisements" (Zarate, 2016, pp. 111-112).
- "How much would you estimate do these networks earn on a given night corresponding to a hypothetical number of advertising placements? How about on a given week, month, or year?" (Campos, 2016, p. 67).

A useful approach in exposing the interlocking directorates of commercial media and non-media companies is the one below prescribed by Zarate (2016), that requires the students to do online research about a media organization and to produce an *ownership map* in identifying the wide range of products and services in the market where it has business interests and involvement. Through the ownership map (or sociogram), the learners will be able to identify the extent of business ownership and control (i.e., media and non-media holdings) and its negative implications for media independence and accountability. In the company profile that the students also need to research and write about, they are required to incorporate and apply the following concepts in political economy, namely "globalization, economies of scale, horizontal and vertical integration, and synergy", in their analysis and evaluation. The application of these key constructs in the critical apprehension of how the media companies operate and behave will reveal the range of business strategies (i.e., acquisition, merger, cut-throat competition) that they employ to (1) reduce cost, (2) strengthen their market position, (3) overwhelm the competition, and (4) broaden the consumer base – most of which have serious repercussions for smaller organizations, unsuspecting customers, underpaid workers, vulnerable communities, and fragile ecologies.

> Create an ownership map – list the companies and products owned by these two corporations. Write a company profile of these companies, drawing into your writeup the concepts we have discussed – globalization, economies of scale, horizontal and vertical integration, and synergy. (Zarate, 2016, p. 120)

In consonance with the discourse of suspicion (Mumby, 1997), Campos (2016) also required the students to examine and compare two local media giants (i.e., duopoly) and determine the full extent of their ownership and control in terms of existing media types. The students were also asked to evaluate if these media outfits produce consistent and mutually reinforcing messages that are promotive of their economic and non-economic interests. Typical also of critical discourse analysis-related inquiries, Campos asked the students to compare the two media entities based on their news items' "language, treatment, emphases, and sequence" as well as the practice of inclusion and omission in their media coverage. In his attempt to unmask the political economy of media business, the students were also asked if the media owners have established "political connections" with the power wielders in the government.

- "Find out if the owners of the leading media networks have political connections like relatives, allies, and patrons" (Campos, 2016, p. 69).

Media conglomerates dominate the local socio-cultural landscape through their interlocking control over many media formats. Notice how a particular set of campaigns and messages is carried across and sustained throughout all the media platforms whether legacy or new media. Aside from a repertoire of business schemes, private interest groups (whether media or non-media in nature) are also known to bank on their vast social and political networks to protect their vested economic agenda.

Through his critical textbook tasks, Campos (2016) also seeks to problematize gameshows by asking the students about the sources of prize and the motivation of the corporate advertisers and sponsors behind what others uncritically believe as an act of benevolence and goodwill. This will also allow the learners to perceptively apprehend the complex constructs, processes, and strategies involved in producing a gameshow such as 'hyperreality', captive viewership, cause-related marketing, and corporate communication, among others.

- "Where do the prizes of television contestants and televiewers come from? Is it accurate to assume that the star is the one who generously gives away these prizes? Or do these prizes come from advertisers and sponsors?" (Campos, 2016, p. 62).

Rightly so, there is also an insinuation in his question about the tendency of these game shows to promote poverty pornography. Campos then asked the students "why must be the recipients of the prizes be portrayed as needy and poor" and he queried further if there is "anything wrong with this typical portrayal". This contentious entertainment culture has been practiced and normalized for so long in the media and leisure industry, thereby putting into question the authenticity of goodwill which the gameshows and their corporate sponsors purport to project and establish.

In another set of reflective questions, Campos (2016) politicized the creation of love teams by interrogating the "huge amount of time, energy, and financial resources" that are poured in not only by the entertainment companies but also by the broad fan base. To deepen the level of analysis and insinuate how the poor and middle-class fans shell out funds from their already meagre income, Campos asked the students if "all supporters…have equal means to spend valuable resources" (p. 62). This perceptive question reveals that the social construction and financial viability of love teams involve the economic and emotional labour as well as temporal investment of the fan base, underscoring how valuable resources, especially monetary, unilaterally flow from the mesmerized fans to the television/movie stars, talent agencies, and media companies.

Do love teams become more popular when more time, energy, and financial resources are invested in their construction? How much time, energy, and financial resources are amassed from the fans by those who construct successful love teams? Do all supporters of successful love teams have equal means to spend valuable time, energy, and financial resources as fans? (Campos, 2016, p. 64)

A discussion about the economic and financial dimension of media production and consumption is never complete without covering the price as a crucial element. Price serves as an economic determinant of access to media products and services in the market. As such, the strategy to inquire about the price of the media product is notable. A case in point was when Cantor (2019) asked learners to comment on the price of media products (i.e., books, magazines, movies) – the only instance it was inquired about across all textbook titles. The question also serves as an opportunity to make students reflect further about the implication of the price on their media preference, use, and lifestyle, especially if it becomes too prohibitive for ordinary consumers.

By foregrounding the profit motive and exposing the elite conspiracy in the media business, critical political economy enables students to be cognizant of (1) how the people (social) and the planet (ecological) are conceived as peripheral and secondary when pitted against profit or the financial bottom line (economic) and (2) how the public resources are methodically employed for private gain and self-aggrandizement.

In one of her remarkable critical textbook tasks, Zarate (2016) asked the learners to analyze television programs from a government-owned station by citing the "limitations – and even dangers – that it can potentially pose to public interest" (p. 123). In exposing the students to the progressive application and embodiment of the public sphere model, Zarate (2016) proposed

evaluating media organizations based on how they consistently uphold (or hinder) public values and fulfill (or frustrate) the people's development agenda.

- "Tune in to at least NBN program featuring government events. Using the programs format and content of this government owned and controlled channel as specimen, cite the limitations – and even dangers – that it can potentially pose to public interest" (Zarate, 2016, p. 123).

Another noteworthy question posed by Zarate (2016) that promotes critical information literacy among the learners is asking them about the implications of public sector information being "very general and details are sparse" in relation to the need to observe "transparency in government transaction." This inquiry raises the same suspicion and skepticism reflected in the previous task pertaining to the government's commitment (or lack thereof) in practicing transparency, upholding integrity, and protecting the public interest through truthful reporting of information.

- "The report cites that the analysis of documents in data were made complicated and difficult because the information is very general and details are sparse. What do these observations imply on the drive toward transparency of government transactions" (Zarate, 2016, p. 50).

Johnson and McLean (2020) pointed out that critical discourse analysis concerns the investigation of the social and material consequences of discourse. From the Marxist standpoint, these social and material dimensions refer to the society's superstructure and substructure, which constitutively also include their dialectical interaction (i.e., political economy). Politico-economic forces shape discourse and, in turn, discourse also influences the social and economic realities of individuals, institutions, and industries. This socio-material emphasis (i.e., dialectics of economic and non-economic dimensions), therefore, points to the necessity to incorporate the political economy of media not just as a subject of interest but also as a frame of analysis in media and information literacy education.

3.5 Counter-discourse on Poverty and Inequality

By situating social and sectoral issues in the context of poverty and inequality, learners will understand how development and policy challenges such as bureaucratic corruption, civil strife, system-induced disaster, triple burden of disease, and unsustainable migration are inherently linked to the twin scourge of *resource deprivation* and *resource divide*. Towards this end, social and sectorial issues must be apprehended with poverty and inequality as default elements in the social equation and sociological analysis. As such, civil strife needs to be understood to have been caused by poverty and inequality in the same way that it must also be recognized that civil strife can, in turn, exacerbate the existing conditions of poverty and inequality in the society.

As a social justice issue, poverty is observed to be severe and persistent in the Philippines. Hence, it is expected that this social and sectoral concern figures prominently in textbook tasks as a recurring subject of deliberation and debate. Such is how poverty is instantiated and represented in the instructional materials through the following cases and contexts: (1) poverty and rurality, (2) poverty of the peasant class, (3) poverty pornography, (4) poverty and philanthropy, and (5) poverty in relation to lack of family planning. By and large, the questions are commendable in terms of (1) reflecting on the social condition of the rural inhabitants, (2) interrogating the tendency of romanticizing the poor and resorting to poverty pornography, (3) problematizing the 'culture of poverty', and (4) revealing the impact of structural violence on people's well-being and quality of life.:

- "Why must the recipient of the prizes be portrayed as needy and poor? Is there anything wrong with this typical portrayal?" (Campos, 2016, p. 62).
- "Do you agree with the premise of the main informant that poverty is largely due to breeding large families?" (Zarate, 2016, p. 91).

Considering its complexity as a development challenge, the poverty phenomenon needs to be understood within the broader social context through situated learning.

Within this parameter, poverty must be recognized as a structural failure rather than a mere issue of individual shortcoming. To avoid committing poverty pornography, poverty should not be conceived as natural, i.e., merely functioning as a backdrop, and hence politically and ideologically unproblematized. As such, creativity and criticality in media and information literacy need to be wielded in their strong politico-ideological sense if the consummate end-goal is structural and thoroughgoing change (i.e., 'change of conditions and circumstances').

3.6 Counter-discourse on Social Exclusion

In her prelude to one of the textbook tasks on cultural appropriation, Cantor (2019) described the passive stance of the local folks as a mere background element in the featured promotional photographs, pointing out their "blurred or half-cropped" rendering vis-à-vis the foregrounded celebrity models in their aristocratic posture. The articulated relationship of the models (i.e., Filipino mestizo artists Billy Crawford and Coleen Garcia) to the local inhabitants (i.e., Ethiopian masses) is represented as socially disproportionate in many levels and dimensions. The latter were *othered* by virtue of their skin colour, clothing, and class origin. In the subsequent case study by the same author about rendering artists in *brownface*, the contentious issues of ethnic and cultural discrimination remain as the central point of debate. Although not explicitly pointed out, the specific case study featuring the Ethiopian masses and the multidimensionality of their marginalization suggest the intersectionality of social exclusion (Crenshaw, 2017) that they experience and endure (i.e., subordination by virtue of their social class, skin colour, and cultural background,).

- "With so many comparisons existing in a single frame (i.e., the rich-looking clothes vs. the not-so-affluent local clothing, the skin colour, etc.), what kind of messaging do these types of photos say?" (Cantor, 2019, p. 203).
- "Do you think that covers their "artistic license" to use brownface, given its historically racist implications? In the first place, why are we not seeing more brown skinned actors on local TV?" (Cantor, 2019, p. 221).

In foregrounding intersectional social exclusion, Yuvienco (2017) cited anti-bias activist Clorama Dorvilias in relation to what constitute as "identity triggers", namely "weight, skin colour, accent, gender, clothing, sexual orientation, disability, body language, ethnicity, attractiveness, and height" (p. 26). To this existing list, the 'name of a person' which is usually associated with one's nationality, faith, or social class could also be added. Drawing from this list of "identity triggers", intersectionality of social exclusion refers to the predicament of being linked to two or more social variables and being discriminated on the bases of the person's association with what are subjectively perceived and believed to be socially undesirable/disadvantageous traits.

In the media text analysis by Campos (2016), for instance, his questions implied how geography is directly associated with poverty and the inefficient system of basic social service delivery (e.g., education, health, electricity) in the locality. This type of situated and empathic learning allows students to reflect on the transportation-related problems commonly identified with poor infrastructure, urban bias, and rural underdevelopment.

- "The children who cannot afford to ride motorized boats to go to school have to walk on marsh and muddy paths along the riverside. What does this indicate about social services available to the people in the rural areas?" (Campos, 2016, p. 112).
- "There is no electricity in the community. How does this fact play a quiet but crucial role in the state of literacy of the people in the community?" (Campos, 2016, p. 112).

3.7 Counter-discourse on Intervention and Accountability

By examining the limitations of individual responsibility in relation to the potentials of collective responsibility, students will be able to realize that personal effort (i.e., self-regulation and self-protection) is only a necessary but not a sufficient condition/element in tackling media-related social and sectoral pathologies. Beyond individual efforts, these information and communication disorders require coordinated structural interventions and sustainable solutions (i.e., synergy of critical media pedagogy, government regulation, communication activism, media policy reform, and corporate accountability).

By holding the powers-that-be responsible and accountable, learners will be able to apprehend that social and sectoral problems (e.g., 'information obesity') have deep structural origin which can be linked to the (1) excesses of big businesses, (2) negligence of public regulatory agencies, and (3) cover-ups by publicists – consistent with how critical journalist Michael Pollan (2008) perceived this same unholy alliance operates in the mainstream food-industrial complex.

In problematizing social responsibility, the set of questions below deals with one of the critical issues raised by Mihailidis (2018) about the tendency of "contemporary media literacy initiatives and interventions" to focus merely on "individual responsibility" (p. 156). From this set of textbook tasks, a pattern of increasing level of engagement and accountability can be observed, starting with the individual person then the community and even holding private corporations accountable to the public (Campos, 2016). This line of questioning subscribes to the idea that while individuals must possess personal efficacy to effect self-change, there is an even greater need to elevate the strategy in the collective level of influence and engagement. While behavioural change in the individual level is important, transformation must also manifest in the structural realm to ensure success, scalability, and sustainability. In the particular way the questions below were framed and formulated, the author clearly and deliberately articulated how confronting obesity in both its *nutritional* and *informational* senses also has individual and collective dimensions and repercussions, and that – as a social malaise – it must also be apprehended how and why large businesses are, in fact, guilty of the offense and hence should be answerable to the public (i.e., critical accountability):

- "What is the role and responsibility of an individual when it comes to overcoming (information) obesity?" (Campos, 2016, p. 147).
- "What is the role and responsibility of communities to help people stay clear of (information) obesity?" (Campos, 2016, p. 147).
- "What is the role and responsibility of corporations in regulating or perpetuating an unhealthy or healthy appetite?" (Campos, 2016, p. 147).

4 Discussion

Media and information literacy as a field of social inquiry and situated practice possesses a huge potential in discovering and developing sustainable solutions to multiple structural crises. However, when this subject area is *paradigmatically* and *programmatically* positioned as the ultimate solution for "all media-related social and psychological ills", then it (1) oversimplifies the problems it purports to address, (2) overstates the influence of media on young people, and (3) underestimates the complexity of media education (Buckingham, 2007, as cited in Mihailidis, 2018). This reservation of Buckingham is a legitimate concern because this assumption about media and information literacy as a panacea tends to unfairly pass to MIL educators (i.e., teachers and textbook authors alike) the heavy burden and responsibility of dealing with the broad array of complex development issues. While media and information literacy is indeed crucial in grappling with social and sectoral problems, it must be accompanied and complemented by

(1) politico-ideological education, (2) media policy reform, (3) government regulation, and (4) thoroughgoing structural change. These macro-level interventions and initiatives, therefore, must be strategically employed to create long-lasting and consequential effects in the individual, community, and policy levels. The collectivist stance and structural approach of confronting information pathologies challenge the individualist notion of narrowly looking at complex problems being resolved by mere efforts of "self-protection" or "self-regulation." This, therefore, points to the discursive and pedagogical weaknesses of orthodox textbook tasks that do not interpose collectivist and structuralist perspectives in unpacking intricate social justice issues, thereby failing also in proposing viable, sustainable, and impactful interventions.

Altogether, these mutually reinforcing counter-discourses contribute to the objective of harnessing not just the students' academic competencies but, more compellingly, their more-than-academic ethico-political commitments. In more specific terms, the counter-discourses on values and ideologies complementarily enable the learners to make critical sense of the standpoints that they privilege or subdue as well as how these perspectives shape the media texts that they create, circulate, and consume. The counter-discourses on corporate choices and practices correspondingly afford the students to unmask and problematize the commercial bias and capitalist logic that tend to homogenize media philosophies, pedagogies, and policies. The counter-discourses on poverty, inequality, and social exclusion allow the learners to understand the complexity and multidimensionality of resource deprivation and resource gap as well as challenge the depoliticized interpretation of poverty and underdevelopment. As concretization of the critical tradition's transformative agenda, counter-discourses on intervention and accountability ultimately empower the students to contend with the social justice issues on various levels of influence and engagement (i.e., personal, institutional, and collective). The table below summarizes these countercurrents in political economy into analytical categories and specific dimensions and issues.

Analytical Categories	Social Dimensions and Issues	Counter-Discourses in Political Economy
Political values and ideologies	Values	Apprehending media creation, circulation, and consumption as value-laden and interrogating the myth of value neutrality
	Ideology	Professing ideology in its maximal sense (Tayag, 1995)
Ethical choices and practices	Choice and change	Unmasking the market myth of choice and change
	Business model and practice	Problematizing corporate bias and capitalist logic
Development challenges and issues	Poverty and inequality	Politicizing poverty and inequality
	Social exclusion	Framing social exclusion as intersectional (Crenshaw, 2017)
Strategic approaches and interventions	Intervention and accountability	Asserting the critical and collectivist notion of responsibility and accountability

TABLE 1: *Counter-discourses in media and information literacy praxis*
Source: own processing, 2024

5 Conclusion

This critical qualitative study revealed that there are patterns in the textbook task design that sharply diverged from the conventional substantive and discursive focus, and among which are (1) Cantor's (2019) introduction of the 'intersectionality of social exclusion' in her case studies thereby exposing social injustice in its varied forms, (2) Campos' (2016) critico-philosophical inquiries on positionalities and intentionalities in his self-reflection tasks, thereby sharpening the

students' analytical and evaluative skills, and (3) Zarate's (2016) unmasking of the profit agenda and exploitable character of the market model in her incisive exercises, thereby revealing the moral depravity of capitalist logic.

Given the prevailing economic and academic order, the mainstream textbook industry retains its conservative appeal in instructional materials development. By keeping the generic content and format of textbooks, companies are then able to maintain their broad patronage across various market segments. However, as sites of struggle (Apple, 2000) and zones of transaction (Genette, 1997), it was revealed in this media and communication inquiry that textbooks also alternatively demonstrated and embodied critical praxis albeit in varying scopes and degrees. In particular, this study exhibited that such counter-stance in making critical sense of ideologies, industries, and institutions is in fact conceivable and practicable.

Despite the orthodoxies in the education system in general, the textbook task section as revealed by this research can also antithetically serve as a critical platform to articulate counter-consciousness and counter-discourses. When conceptualized and designed along this counter-tradition, the textbook task segment then becomes a venue for learners to critically apply media and information literacy in sharpening their scholarship, politics, and ethics. As such, critical media and information literacy becomes crucial in making possible what Campos (2016) pointed out as the propensity to "imagine a world other than the repressive present" (p. 27). Through his thought-provoking exposition, Campos allows the learners to question the tendency of mainstream media in restricting the public to "speak about and think only of limited options and possibilities". Correspondingly, this counter-discursive orientation is consistent with "ideology critique" which is central to critical media literacy as a transgressive media education framework and approach (Kellner & Share, 2007). Ultimately and in the broadest sense, the idea of envisioning an alternative social and pedagogical order is only possible by being politically aware, philosophically reflective, and discursively critical. Based on the foregoing exposition, the following recommendations are earnestly forwarded:

- Incorporate critico-ideological literacy in media and information literacy curricula to ensure its application in the conceptualization and development of instructional materials.
- Make the study of paratext a staple component of media and information literacy education (i.e., paratextual analysis).
- Conduct a full-blown study that will reveal how textbook authors navigate, tackle, and circumvent conservatively conceptualized and framed curricula and curriculum guides.
- Produce media and information literacy instructional material for high school that is decidedly and coherently critical in orientation.
- Make textbook task design a central consideration in instructional materials development and not a mere afterthought.
- Frame assessment as a critical and central dimension of learning.
- Expand the critical discourse analysis of textbook tasks to other disciplinary areas.

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Juergen Bleicher, Emil Velinov

The Role of Blended Learning International Cooperation in Increasing Students' Employability

ABSTRACT

The swift evolution of education, catalyzed by the global pandemic, has driven the infusion of advanced technologies into higher education. As student expectations evolve amid global trends and digital transformation, a paradigm shift in pedagogical strategies is underway. This paper explores the realm of international business education and investigates the influence of Blended Learning in International Contexts (BLIC) on increasing students' employability. This study analyzes the motivating factors propelling student participation in virtual collaborations across international management, strategic management, and cross-cultural management disciplines, spanning diverse countries and business schools. Additionally, it assesses the role of institutional support and digital literacy in enhancing the effectiveness of BLIC. This paper further examines how BLIC enhances critical thinking, problem-solving, and intercultural communication skills, ultimately preparing students to thrive in an increasingly interconnected and dynamic global workforce. By fostering international collaboration, BLIC empowers students to navigate complex global business challenges and equips them with the competencies essential for success in today's digital economy.

1 Introduction

The dynamic transformation of education, accelerated by the global pandemic, has compelled the integration of cutting-edge technologies into higher education (Mathew et al., 2021). This paper probes the transformative impact of Blended Learning in International Contexts (BLIC) on student employability within international business and management courses. The emergence of global virtual teams (GVTs) within experiential learning models has become a vital catalyst, fostering cross-border collaboration. This study sheds light on the drivers prompting students across diverse business schools to participate actively in virtual cooperation, particularly within the international management domain and their perception on future employability.

The rapid evolution of education, catalysed by the unprecedented challenges posed by the global pandemic, has ushered in an era of innovation, where the infusion of state-of-the-art technologies into higher education has become a necessity rather than an option (Rahimi & Oh, 2024). During these transformations, this paper takes a deep dive into the profound influence of BLIC on student employability, a cornerstone of modern pedagogical strategies, within the realm of international business and management courses. As educational landscapes evolve and student expectations adapt to shifting global trends, there is a compelling need to explore the ways in which technology, specifically BLIC, is reshaping the employability dynamics of students within the context of global virtual teams (GVTs).

The BLIC (Blended Learning International Collaboration) initiative significantly enhances students' employability by equipping them with the critical skills demanded by global employers. Through active participation in BLIC projects, students develop key competencies such as cross-cultural communication, virtual teamwork, and digital literacy. These projects simulate real-world business environments, providing students with hands-on experience in managing international projects, utilizing digital collaboration tools, and navigating cross-border professional dynamics (Velinov & Bleicher, 2023).

1.1 Literature Review

The infusion of digital platforms into education is a response to the evolving educational landscape, fuelled by the pandemic (Tomei et al., 2024). The pandemic's influence has led to shifts in higher education, with technology playing a crucial role in ensuring uninterrupted learning (Reale et al., 2022). Experiential learning, a cornerstone of business education, has gained prominence, with global virtual teams serving as a vehicle for immersive learning experiences (Jagatheesaperumal et al., 2024). These teams facilitate collaboration across geographical barriers, fostering strategic thinking and cross-cultural understanding (Jagatheesaperumal et al., 2024).

Digital platforms have significantly reshaped pedagogical approaches, particularly within the realm of international business education, by facilitating flexible and accessible learning opportunities (Alam et al., 2022). The integration of online and blended learning environments has revolutionized the delivery of education, fostering a technology-enhanced learning ecosystem (Adamson & Sloan, 2023). Notably, the adoption of computer-supported collaborative learning (CSCL) has demonstrated substantial benefits, including improved knowledge acquisition and skill development (Tedla & Chen, 2024). The onset of the COVID-19 pandemic accelerated the adoption of technology-assisted learning, further emphasizing the critical importance of integrating technological tools into educational frameworks (Paudyal, 2022). Blended learning, which combines online and face-to-face instructional methods, has gained considerable momentum, offering both flexibility and a unified learning experience (Tonbuloğlu & Tonbuloğlu, 2023). Furthermore, virtual learning environments and learning management systems have enhanced communication within virtual teams, thereby improving collaboration and interaction

(Swart et al., 2022). The pandemic has underscored the pivotal role of digital platforms in sustaining connectivity and engagement amidst educational disruptions (Li et al., 2023).

Recent studies from 2022 to 2024 have continued to explore the impact of blended learning on student employability. For example, Kumar & Goyal (2023) emphasize that blended learning environments prepare students for the digital and collaborative nature of modern workplaces. Additionally, research by Taylor (2023) found that students participating in blended learning programs reported higher levels of job readiness and employability skills compared to those in traditional learning environments. These studies highlight the ongoing relevance and importance of blended learning in higher education.

2 Methodology

This study engaged 114 students across diverse business schools, spanning various countries, and enrolled in business and management programs. Data collection employed an online questionnaire, utilizing the Likert scale, distributed through Google Forms. The research aimed to uncover the impact of Blended Learning in International Contexts (BLIC) and innovative teaching approaches on student employability within global virtual teams. A comparative analysis of student perceptions before and during the pandemic (2017 and 2022) was also conducted.

The methodology of this study encompassed a comprehensive examination of student employability within global virtual teams, with a specific focus on the transformative role of BLIC and innovative pedagogical approaches. To effectively explore this phenomenon, the research engaged a cohort of 114 students, hailing from a diverse array of business schools (Duale Hochschule Baden-Wurttemberg, Keele University, Reykjavik University, Technologico de Monterrey, Skoda Auto University and the Estonian Business School) from six respective countries – Germany, United Kingdom, Iceland, Mexico, Czechia and Estonia. These students were enrolled in business and management programs, making them ideal participants to provide insights into the impact of BLIC on student employability within the context of global virtual teams.

Data collection was executed using a carefully crafted online questionnaire that harnessed the Likert scale, a proven tool for assessing attitudes and perceptions. The questionnaire was strategically designed to delve into the nuances of student employability within the realm of international business and management education, particularly when operating within the dynamic landscape of global virtual teams. The Likert scale, known for its versatility and ability to capture nuanced responses, enabled participants to provide granular insights into their experiences, opinions, and perceptions.

The distribution of the online questionnaire was facilitated through Google Forms, a widely accessible and user-friendly platform that ensured a seamless and convenient process for participants. Leveraging digital technology for data collection was not only aligned with the study's focus on technology-driven engagement but also enhanced the efficiency and reach of the research.

The overarching goal of the research was twofold: first, to unravel the multifaceted impact of BLIC and innovative teaching approaches on student employability within global virtual teams, and second, to conduct a comparative analysis of student perceptions over a defined timeframe. Specifically, the study aimed to understand how student employability had evolved before and during the pandemic, marked by the years 2017 and 2022, respectively.

By employing a mixed-methods approach that combines quantitative data obtained through the Likert scale with qualitative insights garnered from open-ended responses, the methodology ensured a comprehensive exploration of the phenomenon. This hybrid approach empowered the research to capture both the quantitative trends and the qualitative nuances of student employability, providing a richer understanding of the interplay between BLIC, teaching innovation, and virtual teamwork.

The methodology aligns with recent studies such as those by Muhria, Supriatna, & Nurfirdaus (2023), who explored the impact of blended learning on employability skills, and by Crew & Martins (2023), who analysed the effectiveness of blended learning in developing real-world skills through virtual teamwork. This comprehensive approach ensures a robust analysis of how BLIC influences student readiness for the global job market.

3 Results

The study revealed a positive student perception of employability enhancement within experiential learning projects such as BLIC and X-Culture in business and management education across the globe. Amid pandemic-induced lockdowns, digital platforms and online learning emerged as pivotal tools, maintaining connectivity and facilitating assignment completion. Students expressed satisfaction with team performance, educator support, and peer interaction through digital platforms. Communication tools like Google and Bing garnered significant appreciation.

N	Min	Max	Means	Std.Dev.
Utilization intensity of technologies and tools: 1. Online libraries from the university	114	1.000	7.000	3.149
Utilization intensity of technologies and tools: 2. Internet search engines (e.g., Google, Bing)	114	2.000	7.000	6.289
Utilization intensity of technologies and tools: 3. Social media portals (e.g., Facebook)	114	1.000	7.000	3.096
Utilization intensity of technologies and tools: 4. Video channels (e.g., YouTube videos from experts)	114	1.000	7.000	3.763
Utilization intensity of technologies and tools: 5. Community/ Conference technologies (e.g., Zoom, MS Teams, Skype, WebEx, etc.)	114	1.000	7.000	5.035
Utilization intensity of technologies and tools: 6. Cloud-based services (e.g., Google Drive, DropBox, OneDrive)	114	1.000	7.000	4.026
Utilization intensity of technologies and tools: 7. WeChat, WhatsApp, Viber App, etc.	114	1.000	7.000	5.272
Utilization intensity of technologies and tools: 8. Learning portals from the university (e.g., Moodle, Canvas, Blackboard)	114	1.000	7.000	3.430

*1=*Not at all or very low utilization intensity, 7=Very high utilization intensity*

TABLE 1: *Usage of digital media and AI technologies by the students within BLIC and X-Culture programs*
Source: own processing, 2024

The provided tables present a comprehensive overview of the utilization intensity of various technologies and tools within the context of the study. These technologies play a crucial role in facilitating student employability within global virtual teams, shedding light on their preferences and behaviours in utilizing digital resources. The table presents key statistical measures, including the number of participants (N), the minimum and maximum values, the mean (average), and the standard deviation (Std.Dev.) for each technology/tool category.

Year	Perception Category	N	Mean	Std. Dev.	t-value	p-value
2017	Overall satisfaction with team performance	114	4.32	1.29		
2022	Overall satisfaction with team performance	114	5.16	1.12	5.32	<0.001
2017	Perceived educator support	114	3.85	1.34		
2022	Perceived educator support	114	4.89	1.21	6.01	<0.001
2017	Interaction with peers through digital platforms	114	4.11	1.35		
2022	Interaction with peers through digital platforms	114	5.05	1.25	4.89	<0.001

TABLE 2: *Comparative analysis of student perceptions on student performance in 2017 and 2022*
Source: own processing through STATA software, 2024

This table presents a comparative analysis of student perceptions in 2017 and 2022, focusing on key perception categories such as overall satisfaction with team performance, perceived educator support, and interaction with peers through digital platforms. The analysis includes key statistical measures such as the number of participants (N), the mean (average), the standard deviation (Std. Dev.), the t-value, and the p-value for each perception category.

The table provides valuable insights into the shifts in student perceptions over the specified timeframe, revealing statistically significant differences and trends in their experiences within global virtual teams. The significant p-values (p<0.001) indicate meaningful changes in student perceptions between 2017 and 2022. The paper results depict that the overall student performance has grown over the period 2017-2022 within the selected business school and that learner and teacher interaction has increased as well (see Table 3).

1. Students reported higher satisfaction with team performance in 2022 compared to 2017.

2. Perceived educator support increased significantly in 2022.

3. Interaction with peers through digital platforms showed notable improvement in 2022.

4. Students who engage in BLIC demonstrate a higher degree of readiness for the global job market, possessing practical skills and a versatile mindset that are highly valued by employers in today's interconnected world.

TABLE 3: *Study findings in nutshell*
Source: own processing, 2024

4 Discussion

The results indicate a substantial positive shift in student perceptions of employability within the context of BLIC and GVTs. This shift can be attributed to several key factors:

Enhanced Digital Connectivity: The proliferation of digital tools and platforms has facilitated seamless communication and collaboration among students, transcending geographical barriers. Tools such as Google, Bing, and video conferencing platforms like Zoom and MS Teams have been instrumental in maintaining connectivity and fostering a collaborative environment. The study by Velinov & Bleicher (2023), underscores the importance of virtual learning environments in enhancing student engagement and interaction.

Educator Support and Pedagogical Innovation: The role of educators in supporting and guiding students through digital platforms has been pivotal. Educators' ability to adapt to new technologies and innovative teaching methods has significantly contributed to students' positive experiences. This aligns with findings from Heilporn, Lakhal & Bélisle (2021), who emphasized the importance of educator support in blended learning environments.

Increased Student Engagement: The integration of experiential learning projects like BLIC and X-Culture has provided students with real-world, practical experiences that enhance their employability. These projects enable students to work in diverse, cross-cultural teams, fostering skills such as strategic thinking, cross-cultural communication, and adaptability. This is consistent with the research by Goulart, Liboni & Cezarino (2022), which highlights the role of experiential learning in preparing students for the job market.

Flexibility and Accessibility: Blended learning offers the flexibility to combine online and face-to-face interactions, accommodating diverse learning preferences and schedules. This flexibility has been particularly valuable during the pandemic, ensuring continuity in education and maintaining student engagement. The study by Aithal and Mishra (2024) supports this, noting that blended learning environments enhance student satisfaction and learning outcomes.

The discussion is interlinked with the methodology by highlighting how the data collection process, specifically the use of online questionnaires and the Likert scale, enabled the capture of detailed insights into these factors. The comprehensive methodology allowed for an in-depth analysis of student perceptions, providing a robust foundation for understanding the impact of BLIC on employability.

Recent studies from 2022 to 2024 have further supported these findings. For instance, research by Hughes (2024) emphasized the effectiveness of blended learning in developing real-world skills through virtual teamwork and highlighted the positive impact of blended learning on employability skills. These studies reinforce the importance of innovative teaching approaches and digital connectivity in enhancing student employability within the context of global virtual teams.

5 Conclusion

In conclusion, experiential learning within global virtual teams, propelled by BLIC, augments student motivation and engagement, thereby increasing employability. Projects like BLIC and X-Culture underscore the value of immersive learning experiences and international exposure within business education. The study advocates for the continued advancement of global virtual teams, enhancing international business courses and nurturing student participation. As technology advances, future research could explore how BLIC and virtual reality further amplify experiential learning within global virtual teams. Additionally, investigating the role of mentorship and guidance in fostering cross-cultural collaboration could refine pedagogical practices in international business education, ensuring students are well-equipped for the complex global business landscape.

However, the implementation of BLIC also presents several challenges and limitations that need to be addressed for its successful integration. Issues such as the digital divide could hinder equitable access to these learning tools, as not all students may have the necessary technological resources or infrastructure. The readiness and quality of technological infrastructure, particularly in underdeveloped regions, may also limit the reach and effectiveness of these virtual learning environments. Moreover, the rapid pace of technological innovation requires continuous professional development for educators to effectively leverage BLIC in their teaching. Addressing these challenges is critical to ensuring that BLIC and similar collaborative international learning projects can be fully optimized to provide inclusive, innovative, and impactful learning experiences for all students, regardless of their geographic or technological constraints.

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Slovak Mimicry of Online Content Moderation on Digital Platforms as a Result of the Adoption of the European Digital Services Act

ABSTRACT

The global nature of digital platforms, particularly social media, highlights the lack of a unified legal framework to regulate the content which is distributed to users. This issue is not only about the quality of the content but often concerns its problematic nature, which may conflict with the legal systems of various countries, especially the member states of the European Union. Examples include hate speech, terrorist content, discriminatory material, or images depicting child sexual abuse. Digital platforms frequently argue that they are not responsible for the nature of this content, as they merely facilitate its publication and do not create it themselves, thus claiming they should not be held legally accountable. This article examines the research question of how the recently adopted European Digital Services *(Regulation (EU) 2022/2065 of the European Parliament and of the Council of 19 October 2022 on a Single Market for Digital Services and amending Directive 2000/31/EC (Digital Services Act)*, 2022) might change the current paradigm using various legal tools. The Act aims to effectively regulate online intermediaries and platforms, including marketplaces, social networks, content-sharing platforms, app stores, and online travel and accommodation services. Through a critical analysis of the provisions of the Digital Services Act, related legislation, court decisions, and the actual behaviour of digital platforms, the authors reassess the effectiveness of different mechanisms intended for moderating content on these platforms. The primary objective is to determine the shift in the legal boundaries of digital platforms' responsibility for shared content, particularly regarding newly defined obligations related to user safety and new information requirements for digital platforms, such as reporting to European supervisory authorities. Special attention is given to the increased legal protection of minors using digital platforms, particularly regarding the absolute prohibition of profiling them for online advertising, as stipulated in Article 28 of the Digital Services Act. This provision complements the relevant rules set out in Article 22 of GDPR. The general tightening of conditions for presenting advertisements online is intended to curb the use of personalized advertising, which often relies on the (impermissible) profiling of ad recipients using special categories of personal data, such as racial or ethnic origin, sexual orientation, biometric data, and more. In the article, the authors also discuss potential challenges in the practical implementation of the Digital Services Act in individual member states of the European Union, considering the specifics of national legislation. To illustrate these challenges, the article provides an analysis of the legislative realities in Slovakia as a model example.

1 Introduction

Content moderation on digital platforms in a globally interconnected, cross-border environment is inherently challenging. The responsible and diligent conduct of intermediary service providers is crucial for maintaining a safe, predictable, and trustworthy online space. This is also vital for enabling European Union citizens and others to exercise their fundamental rights, as guaranteed by the Charter of Fundamental Rights of the European Union, including freedom of expression, the right to information, freedom to conduct a business, and the right to non-discrimination (*Regulation (EU) 2022/2065 of the European Parliament and of the Council of 19 October 2022 on a Single Market for Digital Services and amending Directive 2000/31/ EC (Digital Services Act)*, 2022). Practical application becomes even more difficult when the environment is shaped by different legal frameworks resulting from the fragmentation of national regulations (IFC et al., 2018)[1], not only among EU member states but also across different legal systems, historical traditions, and customs in each country. This situation undermines the fundamental principle outlined in Article 26 of the *Treaty on the Functioning of the European Union*[2], which aims to create a borderless area within the EU, guaranteeing the free movement of goods and services and the freedom to settle. This issue is further complicated by the cross-border nature of the Internet, which is generally used to deliver digital and information society services, but is subject to varying national regulations (Bulla, 2018).

As a result, efforts to effectively implement measures to prevent the spread of illegal content through digital platforms, search engines, or other services are often ineffective. Due to the fragmentation of legislation across different countries, it is challenging to prevent potential negative impacts on fundamental rights, civil discourse, the electoral process, public safety, and other social issues such as gender-based violence or the protection of minors (Mendoza, 2022). We must recognize that digital platforms serve as instruments driving societal transformation, gradually evolving and redefining exchange relationships between individuals, thus facilitating the shift from a traditional to a collaborative economy. Digital platforms encompass all elements of a collaborative economy, as defined by Felson and Spaethem (1978), which involves socially or legally significant situations where economic goods and services are shared as part of social activities. Botsman and Rogers (2010) expand the definition of a collaborative economy by including innovative elements. They consider traditional activities such as sharing, exchanging, lending, trading, renting, and donating, when facilitated by modern technologies and mutual communities, as integral aspects of a collaborative economy. For the purposes of European law, the European Parliament provides a legally relevant definition of a collaborative economy. It highlights that a collaborative economy should be viewed not just as a collection of new business models offering goods and services, but also as a new form of integration between the economy and society. This integration involves a broad spectrum of relationships, including economic interactions within social contexts, and fosters new forms of community and innovative business models (European Parliament, n.d.).

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[1]   Authors' note: Due to the varying legal regulations across EU member states, driven by different approaches to regulation and oversight (excluding the impacts on security and trust in digital services), it is estimated that cross-border digital trade could see an increase in value ranging from 1% to 1.8%. This translates to a potential boost in cross-border turnover amounting to between EUR 8.6 billion and EUR 15.5 billion. For comparison, see – Legal analysis of the intermediaries service providers of non-hosting nature – ICF; Grimaldi, The Liabilities Regime and Notice -and- Action Procedures – In European Commission, Directorate -General for Communications Networks, Content and Technology, Overview of the legal framework of notice -and- action procedures in Member States SMART 2016/0039 – Final report, Publications Office, 2018.

[2]   Authors' note: Compare with Article 26 of the consolidated version of the Treaty on European Union, 2012/C 326/01.

It is therefore not surprising that digital platforms, which encompass all the defining characteristics of a collaborative economy, have become environments where fundamental social needs are met. From online shopping to social interactions through sharing videos, information, and photos, these platforms address both material and emotional needs. This integration often blurs the line between work and personal life, as well as between activities aimed at fulfilling material needs and those geared towards satisfying emotional needs, such as self-expression and forming social or intimate connections. In this context, digital platforms can create a complex network of relationships through which individuals can fulfil all their needs, regardless of their nature. This complexity often leads individuals to relax established boundaries that traditionally separate their work and personal lives from third parties. As a result, there is a growing tendency to share more information and content online. This expanded sharing can, however, inadvertently lead to violations of fundamental human rights and freedoms, as personal information becomes more susceptible to misuse and exploitation.

The described scenario, where participants share information within the environment of a digital platform, underscores the need for new legal regulations governing the content and scope of shared information on these platforms. Such legislation must address the protection of fundamental rights and freedoms for all online participants, particularly those who are more vulnerable compared to the economically dominant platform operators. The key factor in determining the legal consequences will continue to be the effective protection of individuals' anonymity. This includes not only safeguarding personal data but also defending against negative phenomena such as cyberbullying and protecting minors. The primary requirement for adopting relevant legal regulations is ensuring transparency and accountability for digital service providers regarding the legal or illegal dissemination of inappropriate content online.

2 Theoretical Framework

In response to these requirements, the Digital Services Act was adopted, coming into effect on February 17, 2024 (*Regulation (EU) 2022/2065 of the European Parliament and of the Council of 19 October 2022 on a Single Market for Digital Services and amending Directive 2000/31/EC (Digital Services Act)*, 2022). This Act establishes a clear legal framework for the operation of intermediary service providers and, in particular, digital platforms such as social media (Rak & Raková, 2021). Key new obligations include setting up procedures for reporting and addressing illegal content, and providing mechanisms to challenge the decisions made by digital platforms regarding content moderation[3]. Specifically, this should apply to providers of intermediary services, especially those offering "simple transmission", "caching", and "hosting" services. The rapid increase in the use of these services – largely for legitimate and socially beneficial purposes – has also amplified their role in mediating and spreading illegal or harmful content. The requirement for certain online platforms to collect, store, and partially verify and publish information about the businesses using their services aims to enhance the safety and transparency of the online environment for consumers. Additionally, the emphasis on the significant influence of very large online platforms (VLOPs)[4] in the online space represents a groundbreaking aspect of this regulation. For Very Large Online Platforms (VLOPs), a higher

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[3]   Authors' note: Compare with Art. 24, par. 2 and Recital 77 of the Act on Digital Services, as well as Art. 3, letters m), p) and q) of the Act on Digital Services and Article 33 of the Act on Digital Services.

[4]   Authors' note: The European Commission identified Very Large Online Platforms (VLOPs) based on data provided by the platforms and its own assessment. These VLOPs include social networks such as Facebook, Instagram, TikTok, YouTube, X (formerly Twitter), Snapchat, LinkedIn, and Pinterest; online stores like Amazon, Booking, AliExpress, Zalando, and Google Shopping; as well as Wikipedia, Google Maps, Google Search, and Bing from Microsoft. Additionally, the app stores operated by Google and Apple are also classified as VLOPs.

standard of transparency and accountability has been established regarding content moderation, online advertising, and the use of algorithmic processes. This includes an obligation to assess the risks associated with their systems and to develop effective risk management tools aimed at protecting the integrity of their services against manipulative techniques.[5] However, Very Large Online Platforms (VLOPs) are also required to ensure transparency in their advertising practices, including the creation of recommendation systems and the decisions related to user self-moderation of content. This commitment is part of the broader regulatory framework established by the Digital Services Act (*Regulation (EU) 2022/2065 of the European Parliament and of the Council of 19 October 2022 on a Single Market for Digital Services and amending Directive 2000/31/EC (Digital Services Act)*, 2022). Complementing this, the Digital Markets Act has been adopted, introducing mechanisms for ensuring compliance with the new rules. This includes market investigations conducted by the European Commission to oversee adherence to these regulations within the digital sector.

The Digital Markets Act is particularly significant because it addresses a range of core platform services that have large economies of scale and low marginal costs for adding new commercial or end users. It also highlights the potential for significant dependency among users, and how this dependency – when combined with unfair practices by platform providers – can severely disrupt market competition. This approach is notably innovative, as earlier definitions, including those in Slovak law, had substantial limitations that allowed digital platforms to evade comprehensive regulation. For example, Section 22h, letter a) of Act No. 442/2012 Coll defined a platform as software, including websites or parts thereof and applications, including mobile apps, that are accessible to users and facilitate connections between sellers and other users to carry out, either directly or indirectly, selected activities for the benefit of these users. It also encompasses all procedures for collecting and processing payments related to these activities (*Zákon č. 442/2012 Z. z. o medzinárodnej pomoci a spolupráci pri správe daní*, 2012).

In this context, considering the European framework for defining a digital platform, Article 9, par. 1 and par. 2 of Act No. 264/2022 Coll., the Media Services Act, offers a more detailed legal definition, specifying that content sharing platform is an information society service whose primary purpose, or one of its main purposes, is to store and distribute a large volume of works and other protected items uploaded by users, in accordance with specific regulations (*Zákon č. 264/2022 Z. z. o mediálnych službách*, 2022). However, none of the provided legal definitions fully satisfy the requirement for a comprehensive legal basis to regulate online content. Additionally, these definitions only apply to the legal relationships covered by the relevant regulations. In this context, a notable positive element for regulating online content is found in Section 2, letter a) of the Electronic Commerce Act. This section offers a broader definition of "information society service", under which the activities of digital platforms can also be categorized. According to this provision, an information society service is understood to be a service provided remotely through electronic communication networks, typically for payment upon the request of the recipient. This includes activities such as commercial communication, data processing, transmission, storage, search, collection, and electronic mail, excluding personal electronic mail (*Zákon č. 22/2004 Z. z. o elektronickom obchode*, 2004). In light of the above, the definition in Article 2, letter h) of the Digital Services Act appears to be broadly applicable and positively suited to regulating the online content in question. It accommodates a wide range of entities by including hosting service providers, which store and publicly distribute information at the request of the service recipient. This definition is effective unless the hosting activity is a minor and ancillary component of another service that cannot function objectively or technically without it.

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[5] Authors' note: For example, there is a prohibition for digital platforms against using inducement techniques designed to influence user behaviour through so-called dark patterns.

This broader definition of digital platform activities is closely aligned with, yet does not undermine, existing European legal regulations. However, the new legal framework introduced in the Digital Services Act marks a significant shift, offering a more precise approach to regulating online content by expanding both its personal and substantive scope.

The Digital Services Act thus serves as a new, secondary tool for regulating online content and establishing a "horizontal framework" that applies to all categories of content, products, services, and activities within intermediary services. Its integration into the hierarchy of legal norms complements existing regulations, particularly GDPR (*Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the Protection of Natural Persons with Regard to the Processing of Personal Data and on the Free Movement of Such Data, repealing Directive 95/46/EC (General Data Protection Regulation)*, 2018). From the perspective of its intended purpose, the Act clarifies and broadens the scope of regulation by including a new range of entities that might have previously evaded the original legal framework due to its ambiguity or perceived insignificance in the relevant economic market. For instance, while the Act's measures on online advertising complement rather than alter existing regulations regarding consent to personal data processing and the right to object, they introduce new obligations for transparency towards users of online platforms. This increased transparency will help users exercise their rights as data subjects more effectively. Additionally, it will enable authorities and verified researchers to monitor how advertising is displayed and targeted (Mendoza, 2022).

3 Methods

The aim of this article is to evaluate the social and legal consequences of applying the new Digital Services Act to the activities of digital platforms engaged in various intermediary functions, which fall under the broader categories of hosting and information society services. To achieve this objective, the article employs a scientific method that includes critical analysis of relevant European legislation, examination of legal conclusions from pertinent courts, and review of factual actions by stakeholders, as documented through statistical research and legally relevant documents. To achieve the objectives of this article, we employed several research methods that collectively contributed to a thorough assessment of user protection on digital platforms, particularly social networks that facilitate online (personalized) advertising. This advertising is created through the automatic processing of information and personal data using computer algorithms and profiling. By carefully selecting information sources, we aim to emphasize the interdisciplinary nature of the topic. Our research drew on insights from sociology, psychology, management, marketing, and especially legal sciences to explore the commercial functioning of digital platforms and their role in addressing the social needs of their users. The various sections of the article are organized to logically lead to comprehensive conclusions. In summary, alongside analytical and synthetic methods, we employed inductive, deductive, and comparative research techniques. Finally, scientific abstraction was used to define key terms based on a review of domestic and international literature, including monographs and peer-reviewed journals. We also incorporated our own insights from expert research in digital marketing communication, along with practical experience in personal data protection, commercial law, and privacy on digital platforms.

4 Results

To achieve the goal of creating a safe, predictable, and trustworthy online environment under the Digital Services Act, the term "illegal content" should be broadly defined (Laclavíková & Olšovská, 2018). This definition should encompass not only the content itself but also any associated information related to illegal content, products, services, and activities. Specifically, "illegal content" should include, regardless of its form, information that is illegal in itself or connected to unlawful activities under applicable law. This includes, but is not limited to, hate speech, terrorist content, discriminatory material, images depicting sexual abuse of children, and online harassment.[6] The main challenge of regulating content on digital platforms lies in their operation across various legal frameworks. Digital platforms can navigate different regulations and apply specific legal rules (lex specialis) for each. Within a single platform, it is possible to encounter varying regulations depending on the type of business activity, such as mediating the sale of goods and services. This complexity makes the creation of a unified approach to content regulation difficult. At the same time, the platform will provide opportunities for social interaction among users and access to various media content, thereby qualifying as an information society service under the Media Services Act. The applicability of the relevant legislation will depend on the nature of the digital platform's content. Specifically, it will be influenced by whether the platform's operations are focused on transactional activities aimed at generating profit, or if they are more oriented towards the presentation and mediation of advertising, similar to social networks. In the latter case, the platform's commercial purpose is driven not by the exchange of goods and services for monetary value, but by the financial value derived from advertising. In the first scenario, the digital platform operates as an intermediary that facilitates the meeting of supply and demand between business entities within specific economic sectors. Here, the actual transactions and legal activities are conducted through the platform's internal mechanisms. The platform's value lies in its ability to create a synergistic effect by linking a large number of participants with similar interests, thereby fostering the commercialization of their interactions. This dynamic leads to an ongoing expansion of these relationships and allows for the continuous entry of new participants (DaSilva & Trkman, 2013; Zuthsi et al., 2019). Consequently, the Electronic Commerce Act is expected to primarily govern the interactions between these entities.

In the second scenario, the digital platform assumes the role of an entity that offers a virtual space primarily for content creation. This platform is not mainly focused on facilitating the exchange of goods and services for financial gain. Instead, it provides a space where individuals can fulfil fundamental social needs, with a primary emphasis on personal expression and interaction (Cîmpan et al., 2022; Parker et al., 2016). The primary added value of this virtual space lies in its broad accessibility to an unlimited number of users and the creation of synergistic interactions between them. Consequently, the commercial impact is achieved through the opportunities for content creation, often driven by advertising activities from specific users. While the use of the digital platform itself is typically free, making it accessible even to minors, the platform leverages these interactions and content to drive its commercial objectives. Therefore, the more engaging and varied the content on a digital platform is for its diverse user groups, the more likely users are to spend extended periods on the platform throughout the day. This increased engagement makes it easier to present new products and services to them, particularly when leveraging personalized content and algorithms to ensure that the right users see the most relevant offerings (Kangas et al., 2007; Strowel & Vergote, 2017).

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[6] Authors' note: Compare the wording of Recital no. 12 of the Digital Services Act (*Regulation (EU) 2022/2065 of the European Parliament and of the Council of 19 October 2022 on a Single Market for Digital Services and amending Directive 2000/31/EC (Digital Services Act)*, 2022).

A notable development driven by digital platforms is the use of content personalization combined with algorithms for displaying tailored content to individual users through profiling. Platforms like social networks and search engines collect various types of information – sometimes automatically – that may qualify as special categories of personal data under Article 9 of GDPR. They employ diverse methods for this, including analyzing frequently searched terms, users' hobbies and habits, and inviting participation in online surveys and contests. The information gathered and the connections made by computer algorithms are further leveraged through various operations, such as sharing this data with third parties who create advertising content displayed on digital platforms, or using it to conduct profiling, which allows for a higher degree of personalized content to be shown to users. Computer algorithms can process a vast array of diverse input parameters, identify connections that are imperceptible to human perception, and generate actionable results in a very short period. They can independently gather input data from multiple sources, particularly online, and evaluate human characteristics and behaviours without bias or emotion (Vojtko, 2017). When delivering personalized advertising that effectively targets the right users on a digital platform, there is a greater potential for valuing such activity, leading to higher revenue from advertisers compared to non-personalized ads aimed at a broader user group. In personalized advertising campaigns, the standard practice involves using recommendation algorithms that consider a specific customer's order history. These algorithms analyze the purchasing patterns of other customers to predict a range of products that might interest this particular customer. The algorithm works by scanning all shopping carts and identifying the products most frequently purchased by people who bought the same item as the original customer. In this way, personalized advertising has become an effective strategy for increasing brand awareness and engaging the target audience. Digital platforms serve as a bridge between promotional content and end users. The purpose of personalization is to boost consumer engagement and foster positive attitudes toward both the advertisements and the brand itself. This approach ensures that users are less likely to be annoyed by ads that do not interest them. To improve users' favourable attitudes toward advertising and the brand, advertisers utilize data collected from online monitoring of user activity (such as cookies) or purchase databases from third parties. This data helps them tailor ads to specific users based on their preferences, demographics, interests, or location. Research on the benefits of personalized advertising has shown that it captures greater attention from consumers than non-personalized ads, ultimately increasing the effectiveness of the advertisements (Kim et al., 2022).

The Digital Services Act, in Article 1 in conjunction with Article 2, letter f), clearly defines social networks as digital platforms and categorizes their activities under the so-called "hosting" service. This classification establishes a legal basis that requires social networks to comply with the Act's provisions. The "hosting" service refers to the storage of information provided by the recipient of the service at their request. The primary obligation that arises for such entities is the duty to moderate the content within their internal infrastructure. Content moderation involves activities aimed at detecting and identifying illegal content, combating such content or information, and taking measures that impact the availability, visibility, and accessibility of this illegal content. These measures might include downgrading its position, restricting access, or removing it altogether (*Regulation (EU) 2022/2065 of the European Parliament and of the Council of 19 October 2022 on a Single Market for Digital Services and amending Directive 2000/31/EC (Digital Services Act)*, 2022).[7] This legal obligation for content moderation establishes a direct and binding responsibility for digital platforms, making them accountable for any violations related to this duty. It means that digital platforms are directly responsible for ensuring the legality of the content they publish, without the leniency or flexibility they previously had. This represents a relatively strong legal instrument, assigning responsibility not only to the content

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[7] See: Art. 2, letter p) of the Digital Services Act.

creator but also to the entity disseminating the content. As a result, it creates a quasi-joint liability relationship between these entities, with specific sanctions imposed on digital platforms for non-compliance[8].

Article 5 of the Digital Services Act sets out strict and limited conditions under which a digital platform can be exempted from liability for the content it mediates. Digital platforms can avoid responsibility only if their service solely involves storing information provided by the user. Additionally, the platform must not have actual knowledge of illegal activities or content. If the platform does become aware of such illegal content, it must take swift action to remove it or disable access to it. Based on the above, it can be concluded that a digital platform operator will not be held liable for stored information if they are genuinely unaware of the illegal activity or content, or if they take appropriate steps to address it once they become aware. To qualify for this exemption from liability for hosting services, the platform must act promptly to remove or block access to illegal content as soon as it gains actual knowledge or awareness of it.

In this regard, digital platforms are expected to implement user-friendly reporting and action mechanisms that make it easy for users to flag content they believe to be illegal. Once reported, the platform must review the content to determine if it indeed violates regulations, and then decide whether to remove it or disable access[9] (Geist, 2023).

5 Discussion

Profiling and automated processing are increasingly used as decision-support tools across various fields. However, these methods may overlook unique case-specific details, potentially leading to unfair or inaccurate outcomes. To address this, Article 22 of the GDPR and Section 28 of the Personal Data Protection Act (*Zákon č. 18/2018 Z. z. o ochrane osobných* údajov, 2022) give individuals the right to not be subject to decisions solely based on automated processing of personal data, including profiling, if such decisions significantly affect them or have legal implications. According to Article 4, par. 4 of the GDPR and Section 5, letter g) of the Personal Data Protection Act, profiling refers to any form of automated processing of personal data used to evaluate specific personal attributes or characteristics (Žuľová, 2021). This includes analyzing or predicting aspects such as a person's health, preferences, interests, reliability, behaviour, location, or movement. The GDPR and the Personal Data Protection Act do not inherently prohibit profiling or automated decision-making; rather, these processes are subject to regulatory requirements and safeguards to protect individuals' rights.

If a digital platform uses an application or a specific algorithm to evaluate the information it collects, the automated decisions made can have a significant impact on the individuals involved and may even have legal consequences for them. Even if the input parameters used for these evaluations seem neutral at first glance, there is still a risk that, when combined, they could reveal characteristics that are protected under the principle of equal treatment and should not be considered. For example, if a platform's automated decision leads to blocking content or cancelling a user's account based on algorithmic analysis of posts and their specific words – without a deeper understanding or assessment of the content – it creates a serious issue.

GDPR already offered substantial protection to users against profiling and automated processing of personal data, even before the adoption of the Digital Services Act. This includes data collected by digital platforms, such as social networks. While GDPR and the Personal Data Protection Act do not outright ban decision-making based on profiling, they do provide

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[8]   Authors' note: Discussed in more detail in Section 3.
[9]   Authors' note: In simple terms, digital platforms and search engines must provide a detailed annual report to the Commission on how their operations might pose systemic risks, like how their algorithms could spread misinformation or illegal content. They need to address these risks by, for example, changing their algorithms or flagging problematic content.

safeguards for individuals. Specifically, these regulations grant the right not to be subjected to a decision that is solely based on automated processing and has legal implications for the individual (as outlined in Article 22, par. 1 of the GDPR and Article 28, par. 1 of the Personal Data Protection Act) (Hudecová et al., 2020). The prohibition of automated decision-making, including profiling, applies only when the decision or profiling is entirely based on the automated processing of personal data. This means that the final decision is made without any human input or consideration of additional factors. The restriction on automated decision-making also applies if the decision has legal consequences for the individual or significantly impacts them in a similar manner. A decision has legal effects if it leads to the creation, modification, or termination of a person's rights or obligations, or if it prevents the person from exercising their rights. However, under Article 22, par. 2 of GDPR and Section 28, par. 2 of the Personal Data Protection Act, an individual does not have the right to opt out of automated decision-making if the automated processing is necessary for the conclusion or performance of a contract with the data subject, or if the processing is based on the individual's explicit consent. Consent is not considered a legally valid basis for processing if the data subject has no real choice, such as when consent to automated processing is a mandatory condition for receiving a service or when there is a power imbalance between the parties. For example, a digital platform that relies on consent as the legal basis for automated processing must be able to prove that individuals clearly understand what they are consenting to (Švec & Žuľová, 2018).

Article 26 of the Digital Services Act aims to enhance the protection of digital platform users' rights, particularly concerning the platform's responsibility for mediated content, such as personalized advertising. It explicitly strengthens legal mechanisms that were initially introduced by Article 6 of the E-Commerce Directive (*Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market ('Directive on electronic commerce'),* 2000).[10] This enhancement also aligns with the legal interpretation of Article 22 of GDPR and incorporates findings from the Court of Justice of the European Union's decisions.[11] In this context, the nature of shared information – whether it's illegal or false – and its potential for widespread distribution are influenced by the cross-border or global operations of digital platforms. Vojtko notes that social networks enable the quick sharing of information stored by hosting providers among their users. He warns that there is a genuine risk that content flagged as illegal could be copied and reposted by another user on the same network. In legal proceedings, a competent court may order a digital platform to disable access to or remove stored information that is identical to content previously declared illegal, regardless of who originally uploaded it (Vojtko, 2017).

Given that advertising systems used by digital platforms (especially Very Large Online Platforms, or VLOPs) can pose significant risks, Article 26 of the Digital Services Act introduces additional protective measures beyond existing European legal frameworks. These risks can include financial contributions that support the spread of illegal or harmful content, as well as discriminatory advertising practices that undermine equal treatment. Digital platforms are therefore required to ensure that users clearly understand when and on whose behalf advertisements are shown. Additionally, users have the right to access information on how to adjust or disable the parameters used for ad personalization. This empowers users to "opt out"

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[10] Authors' note: For instance, Member States are required to ensure that commercial communications, such as advertisements, are clearly distinguishable. This requirement also extends to the labeling of promotional offers, contests, and games. See Article 6 of Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce Directive (*Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market ('Directive on electronic commerce'),* 2000)

[11] Authors' note: Later cited point 36 and 37 of the decision of the Court of Justice of the European Union in the case of Eva Glawischnig-Piesczek v. Facebook Ireland Limited dated 3 October 2019, C-18/2018.

or turn off ad personalization, significantly enhancing their control and protection. The new obligations for digital platforms build on existing user rights established by Article 22 of GDPR, such as the right to object to automated individual decision-making and the requirement to obtain consent before processing personal data for personalized advertising (Valentová et al., 2018). A notable change introduced by Article 26, par. 4 of the Digital Services Act is its explicit prohibition of profiling and the creation of personalized advertising based on special categories of personal data, as defined in Article 9, par. 1 of GDPR. This represents a significant shift from GDPR, which does not explicitly restrict profiling involving such sensitive data. Personalized advertising based on profiling can no longer use data that reveals racial or ethnic origin, political opinions, religious or philosophical beliefs, trade union membership, genetic or biometric data, or information related to health or sexual orientation.[12] This restriction on profiling is further intensified for minors. Article 28, par. 2 of the Digital Services Act explicitly prohibits digital platforms from displaying personalized ads based on profiling if they reasonably know that the user is a minor (*Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the Protection of Natural Persons with Regard to the Processing of Personal Data and on the Free Movement of Such Data, repealing Directive 95/46/EC (General Data Protection Regulation)*, 2018).[13] In line with Regulation (EU) 2016/679, particularly the data minimization principle set out in Article 5, par. 1, letter c), this prohibition should not compel online platform providers to collect, store, or process additional personal data beyond what they already have to determine if a user is a minor. Therefore, providers should not be encouraged to gather age-related information from users solely to comply with this requirement. When evaluating risks to children's rights, digital platforms should consider factors such as how easily minors can understand the service and how the platform might expose them to content that could negatively impact their health, physical well-being, mental development, and moral growth (*Regulation (EU) 2022/2065 of the European Parliament and of the Council of 19 October 2022 on a Single Market for Digital Services and amending Directive 2000/31/EC (Digital Services Act)*, 2022). Article 28 of the Digital Services Act clearly mandates that digital platforms implement effective and suitable measures to safeguard minors. While the specific measures are left to the platform's discretion, they could include designing online interfaces with enhanced privacy, security, and protection for minors, adopting internal policies focused on minor protection, or adhering to codes of conduct dedicated to safeguarding young users.[14]

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[12] Authors' note: In addition to the measures mentioned, very large online platforms are required to support oversight and research into emerging risks from online advertising. This includes addressing issues such as illegal ads, manipulative techniques, and disinformation that could negatively impact public health, safety, civil discourse, political participation, and equality. They must also make archives of displayed advertisements publicly accessible. These archives should include ad content, advertiser information, and data related to ad delivery, particularly for personalized ads.

[13] Authors' note: It's important to note that while the Digital Services Act doesn't specifically address the legal protection of minors, it does impose restrictions related to its scope. In practice, we must rely on Article 8, par. 1 of GDPR and Recital 38, which stipulate that minors are a vulnerable group, exposed to the negative impacts of social phenomena, including unauthorized and illegal intrusions into their private lives and that children require special protection for their personal data because they may not fully understand the risks, consequences, and safeguards related to data processing. This protection is especially important when their data is used for marketing, creating personal profiles, or when services are provided directly to them (*Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the Protection of Natural Persons with Regard to the Processing of Personal Data and on the Free Movement of Such Data, repealing Directive 95/46/EC (General Data Protection Regulation)*, 2018).

[14] Authors' note: Concrete measures can also be found in the Commission's Communication of May 11, 2022, titled "A Digital Decade for Children and Youth: A New European Strategy for a Better Internet for Children" (COM(2022) 212 final.

6 Conclusion

It is challenging to predict the precise impact of the Digital Services Act on digital platforms, particularly social networks, or to gauge its effectiveness in enhancing user protection, especially for minors. However, drawing from the experience with GDPR since 2018, it is likely that the Digital Services Act will meet its objectives. This confidence stems from the robust structure of European supervisory authorities and the establishment of coordination points (digital service coordinators) in each member state, which suggests a high probability of achieving the regulation's goals. Early indications of the Digital Services Act's impact are already visible in the actions of major online platforms. For instance, TikTok and YouTube have responded by not only banning targeted ads for minors but also by automatically setting their profiles to private. This means that videos uploaded by minors can now only be viewed by users they approve, enhancing privacy and control for younger users. From the legal and professional perspective, it's clear that the Digital Services Act will introduce a substantial number of new obligations for digital platforms. These changes will significantly enhance users' ability to actively protect themselves if they believe their information or work is being shared illegally.

A major benefit of the new regulation is the enhanced ability for users to report illegal or inappropriate content on digital platforms. This improved reporting mechanism will strengthen users' legal standing by ensuring more effective content moderation. With the digital platform required to swiftly address and remove reported content – regardless of its global reach – affected individuals can expect prompt and efficient protection of their rights (Pacalajová & Kubinec, 2021). This approach ensures that any infringement on the fundamental rights and freedoms of individuals and entities can be promptly addressed, effectively preventing further harm. By implementing robust reporting procedures and providing mechanisms to challenge content moderation decisions, the Digital Services Act aims to protect affected parties and enhance overall user security. Highlighting this legal protection for very large online platforms will help counterbalance their economic dominance and improve their relationship with users. This is particularly achieved by empowering users with the right to understand and influence how their content is moderated, thanks to transparency regarding the algorithms and applications used by these platforms.

The actual impact of the Digital Services Act on the internal operations of digital platforms will become clear only through ongoing regulatory oversight and the enforcement of legal sanctions as outlined in Article 42 of the Act. Financial penalties for non-compliance can be substantial, ranging from 1% to 6% of the service provider's annual income or turnover, depending on the severity of the breach.

The enhanced protection of user anonymity and personal data on digital platforms will be further supported by Article 28 of the Digital Services Act, complemented by Article 22, par. 1 of GDPR. This combination will bolster safeguards against the over-personalization of advertising messages, reinforcing the privacy and data protection of digital platform users. Moreover, Article 26 of the Digital Services Act significantly strengthens protections for minors compared to previous regulations. It explicitly prohibits the use of profiling based on personal data collected from minors for online advertising, thereby enhancing their protection from targeted ads. When evaluating risks to children's rights, digital platforms must assess how well their services are understood by minors and consider whether the content accessible through their platforms could harm the health, physical, mental, and moral development of young users. This will significantly enhance the protection of vulnerable groups and safeguard users from harmful content.

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The Importance of Cyber Security – Self-Assessment of Students from Bosnia and Herzegovina, Serbia and Montenegro

ABSTRACT

This study aims to identify the cybersecurity awareness of university students from Bosnia and Herzegovina, Serbia, and Montenegro in the following aspects: a) Malware, b) Password usage, c) Phishing, d) Social engineering, and e) Online scams. A quantitative-qualitative research approach was used. Data for the quantitative section were collected using the Cyber Security Behaviour Instrument questionnaire (Muniandy et al., 2017). In the qualitative section, five semi-structured interviews were conducted with students about their behaviour and protection on the internet. Research has shown that respondents apply some good, but still also some weak or dangerous cybersecurity practices in above mentioned aspects. That confirms that the human element remains a critical vulnerability for individuals, businesses, and societies facing rapidly evolving online threats, and that we urgently need the improvement of personal cyber hygiene. The findings highlight strengths and weaknesses in respondents' knowledge and behaviours related to cybersecurity, underscoring the need for continuous education and awareness-raising to improve internet security practices.

KEY WORDS

Bosnia and Herzegovina. Cybersecurity. Montenegro. Serbia. Students.

1   Introduction

More than 66% of the global population now uses the internet, and year 2024 is already marked as a bumper year for digital milestones (Kemp, 2024). The same data shows the increase in the time we spend online, which gives us a clear picture of the dominance of digital technologies in our daily lives. Internet users are fast approaching the status of a "supermajority", and the number of people who remain offline is decreasing.

As for the region, there were 2.67 million internet users in Bosnia and Herzegovina, with an internet penetration of 83.4%. About 16% of the population remained offline at the beginning of the year (Kepios, n.d.). Internet penetration in Serbia is 90% and 89.4% in Montenegro (Kemp, 2024). These high percentages show that, even though these are countries that are not EU members and are still considered countries in transition, they are very much immersed digitally. The digital transformation has occurred not only at the level of technology but also in society. In fact, the core of our societies has changed under the influence of digital technologies, as more and more of our daily activities have shifted into the digital space.

Considering the facts mentioned, we are aware that such extensive exposure to the digital realm carries certain risks. As the number of internet users and the amount of time spent online increase, so does the number of risks and threats which we should pay attention to, and we must learn how to protect ourselves and our societies as well. Just as society has transformed under the influence of ubiquitous digital information and communication technologies, so too have security threats and challenges transcended traditional understandings.

1.1 The Importance of Cyber Security Nowadays

Almost every aspect of our lives today can be prefixed with 'cyber' (related to or involving computers or computer networks – such as the Internet), thus words like cyber-space, cyber-sport, cyber-punk, cyber-activism, cyber-diplomacy, cyber-insurance, cyber-ethics, and many others, have become commonplace in everyday language. Among them is the concept of cyber-security, which encompasses

> the state and practice of protecting infrastructure, information and communication systems, networks, devices, and information from compromise, with the aim of protecting people, material and cultural assets in personal and social property, protecting society and its values, providing comprehensive protection to the people, nation, state, and international relations. (Vajzović, 2019, p. 533)

Cyber-security is based on a holistic approach, that is, learning how to ensure and manage the uninterrupted functioning of the modern information environment (Prskalo, 2022). The primary goal of cyber-security is the security and protection of information, devices, and equipment of companies, institutions, organizations, families, and individuals. However, we can increasingly speak of it in the context of protecting human lives.

Due to the increasing dependence on information and communication technologies in all aspects of our lives, there is an undeniable need to raise awareness and enhance knowledge and skills in cyber security. The first realization that computers could leak sensitive data and that there was a possibility of cybercrime is mentioned in the 1960s, and by the end of the century, we became aware that all computer and internet users were vulnerable, and very likely already exposed to cyberattacks. The growing number of users, devices, software applications and applications in the digital space results in an increasing volume of data circulating, much of which is sensitive or confidential. At the same time, the number and sophistication of cyber attackers and attack techniques are also increasing.

The main cyber threats encompass cybercrime, cyber espionage, cyber warfare, and cyber terrorism (Mataić, 2022; Li & Liu, 2021), and those attacks can be structured or unstructured. There are numerous types of cyber-attacks and methods used by cybercriminals to compromise individuals or institutions, and some of the most used methods include denial of service, malware, phishing, man-in-the-middle, and social engineering (Li & Liu, 2021; Končarević, 2023).

Denial of service implies that a hacker consumes all server resources, so access to the service is not possible for system users (Alghamdie, 2021). There also exists a Distributed-Denial-of-Service (DDoS) attack which represents a type of coordinated attack in which multiple computers, sometimes even botnets, are utilized to disrupt the functioning of a system (Spremić, 2017). These two kinds of attacks are those that do not aim to steal the victim's money or sensitive data but rather to cause damage. The techniques of these attacks can be different, and the most common are flooding (flooding the network or server with false requests which leads to congestion) and exploitation of vulnerabilities (exploiting specific vulnerabilities of software systems which may include targeting code errors that can cause service interruption) (Mirković & Reiher, 2004; Gu & Liu, 2007).

Malware are malicious computer programs designed to compromise the integrity, confidentiality, or availability of data, applications, operating systems, or other parts of a computer or information system, meaning, that it is in this way in which victims meet worms or viruses and their devices become infected (Pande, 2017; Edgar & Manz, 2017). Malware refers to viruses, worms, Trojans, ransomware, scareware, spyware, cryptocurrency miners, adware, and other programs designed to exploit computer resources for malicious purposes (Steinberg, 2019). Malware infections can lead to data loss, identity theft, financial losses and reputational damage to organizations.

Phishing involves an attack aimed at stealing identities or confidential data. It is a method in which a hacker sends a seemingly legitimate email asking users to disclose confidential information (Saxena & Gayathri, 2022). For example, an attacker might send an email that appears to be a legitimate message from a bank, asking the victim to click on a link within the email. When the victim clicks on the link, they are redirected to a fake website that looks legitimate, where they are prompted to log in with their account details. In this way, the attacker gains access to the user's information, including their password. Phishing attacks are one of the most common types of attacks. To illustrate, we can refer to the Valimail study from 2019, which states that nearly 3.5 billion phishing emails were sent globally every day during that year. Aside from email communication, phishing attacks can also be carried out through SMS or voice communication.

Man-in-the-middle attacks are a form of eavesdropping attack, where hacker puts himself between the victim device and the router, exploiting vulnerabilities in the network to bypass communication protocols (Končarević, 2023). More precisely, a malicious agent inserts themselves into a communication session between people or systems, falsely representing both sides, and gains access to the confidential data exchanged through that communication channel. Both victims are usually unaware of such a breach, as from their perspective, the communication appears to proceed normally, in the same manner as it did before the attack (Šimić, 2023).

Finally, social engineering represents a type of attack that exploits human error and induces an individual to open malicious documents, files, or e-mails to gain access to personal data or the system (Wang et al., 2021). Mashtalyar et al. (2021) emphasize that social engineering is often of predominant concern for industries, governments and institutions due to the exploitation of their most valuable resource – their people. Thus, social engineering is a process that relies on psychological manipulation to persuade people to take actions they would otherwise not take. This may include misrepresentation, urgency and pressure, and emotional manipulation.

The statistics shows that the landscape of cyber threats is evolving. A critical reality is: cybercriminals are diversifying their tactics, and no sector remains unscathed (Fox, 2023). Global cybercrime damage costs are expected to grow by 15%, reaching $10.5 trillion USD annually by 2025 (Ene, 2023). Phishing remains the most common form of cybercrime with nearly 2 billion emails being exposed in a single year, affecting 1 in 5 internet users. Considering the information that the human element remains a critical vulnerability for both individuals and businesses, where 82% of breaches against businesses involved a human element through issues like error and social engineering, it is crucial for every individual to pay attention to their own "cyber-hygiene" (AAG IT Services, 2024).

The number of cyber-attacks is on the rise in the countries of the research region too. According to the Report on Cyber Security Threats in Bosnia and Herzegovina, in just one month in 2022, Bosnia and Herzegovina recorded over 9.2 million cybersecurity threats, with DDoS attacks being the most reported (Mahmutović & Hodžić, 2022). Data from Serbia shows that approximately 26 million cyber-attacks on information and communication technology systems occurred in the country in 2020, with the most common being attempts to breach ICT systems and unauthorized data collection (Bjeloš & Pavlović, 2022). In the last few years, Montenegro has also faced an increase in cyber-attacks and crimes in the field of high-tech crime (Mujević, 2022).

Since young people, especially students, are predominantly online for both academic and leisure purposes, it is crucial to pay attention to this group when it comes to awareness of cybersecurity threats. According to the self-assessments of students in the study conducted by Verma and Pawar (2024), 27% of respondents feel extremely aware of cybersecurity threats, while approximately 37% have been victims of some form of cyber-attack. Another study among students (Kamaruddin et al., 2023) showed that 73% of students know about cybersecurity, while the rest have little to no knowledge about cybersecurity. Research by Pawlowski and Jung (2015) showed a relatively modest level of concern about different types of cyber-attacks among students, with the highest level of concern being about attacks targeting their personal computing/mobile devices.

On the other hand, the study by Du and Chintakovid (2023) addressed that even though the overall findings explained that the level of student's awareness about cybersecurity was good, people's behaviour still is the main obstacle to deal with cybersecurity threats and challenges.

Given the fact that societies have transformed under the influence of ubiquitous digital information and communication technologies, and that such extensive exposure to the digital realm carries certain risks, it is undoubtedly necessary to research the current state of cybersecurity awareness.

2 Methodology

This study aims to identify the cybersecurity awareness of university students from Bosnia and Herzegovina, Serbia, and Montenegro in the following aspects: a) Malware, b) Password usage, c) Phishing, d) Social engineering, and e) Online scams.

The research question we began with was: "What is the current state of cybersecurity awareness concerning malware, password usage, phishing, social engineering, and online scams among university students in Bosnia and Herzegovina, Serbia, and Montenegro?"

The hypothesis of this research is: "Although the respondents apply some good practices regarding their cybersecurity, yet their low awareness level in some aspects of malware, password usage, phishing, social engineering and online scams, could still expose them to security threats".

A quantitative-qualitative research approach was used. Data for the quantitative section were collected using the Cyber Security Behavior Instrument questionnaire (Muniandy et al., 2017), which has been piloted, validated and used in other research as well. It consists of two sections: A) sociodemographic data and online activities (2 items), and B) cyber security behaviour (50 items). The questionnaire was distributed online via e-mails of students who participated in the youth projects Regional FutuRise Media Forum and Regional Youth Academy on Constructive Narrative. The Statistical Package for the Social Sciences (SPSS) was used for data analysis, and the findings are presented using descriptive statistics to identify patterns in behaviour and cybersecurity awareness.

In the qualitative section, five semi-structured interviews were conducted with students about their behaviour and online protection. The aim was to identify behaviour patterns and sources of knowledge, the need for additional education, risk perception and an analysis of their online security practices. The obtained data were analysed using thematic analysis (Braun & Clarke, 2006), which includes collection and transcription of the data, then coding, i.e. the first level of data abstraction, after which topics describing the basic characteristics of the collected data are developed. The presented results in the thematic analysis are supported by statements from the participants, which are marked with a label and number (P:1, P:2, P:3, P:4 and P:5). This ensures the anonymity of the respondents, which is the professional and ethical obligation of the researcher. The Table 1 presents topics and codes that were obtained from the interviews:

Topics	Codes
General cyber security awareness	- Examples of online security threats
Specific threats awareness: malware, phishing, social engineering, online scams	- Malware recognition - Antivirus software status and updates - Password usage and update - Phishing attacks - Social engineering: personal information and online identities
Personal practices and self-improvement	- Good cyber security practices and behaviours - Areas for cyber security improvement
Education and training	- Cyber security education as part of formal and informal curricula - Additional resources and training

TABLE 1: *Qualitative research (topics and codes)*
Source: own processing, 2024

3 Results

3.1 Quantitative Research

The study involved 93 participants in the quantitative section through a survey questionnaire: 75 female (80.6%) and 17 male (18.3%). One didn't want to answer the question about gender. 73% of respondents were from Bosnia and Herzegovina, 19.4% from Serbia, and 8.6% from Montenegro. The data shows that 52% participants have completed secondary school, followed by 33% who have completed undergraduate studies. The data also shows that a smaller percentage have pursued higher education, with 9% having completed master's studies and 2% holding doctoral degrees. The presence of 3% in the "Other" category suggests some unique educational paths, while the 1% of respondents with no formal education reflects a minority.

All respondents reported that they use the internet every day, with only one person that do not have an account on social media platforms such as Facebook, Instagram, or TikTok. Instagram is the most popular platform, followed by Facebook in second place and TikTok in third among our respondents. In terms of time spent online, the data reveals that 36% of respondents are online for more than 5 hours a day, while 40% reported spending between 3 to 5 hours daily, and 15% indicated that they are online for 1 to 3 hours. Notably, 9% of respondents claimed they are "always" online, and none reported being online for less than one hour. This significant level of daily internet engagement raises important questions about the impact of extensive online activity on various aspects of life, including mental health, academic performance, and social interactions. The dominance of social media, particularly Instagram, suggests that it plays an important or even central role in the daily routines of respondents, potentially influencing their perceptions and behaviours in the digital landscape. Overall, these findings highlight the pervasive nature of internet use among respondents and underscore the need for awareness regarding the implications of extensive online engagement.
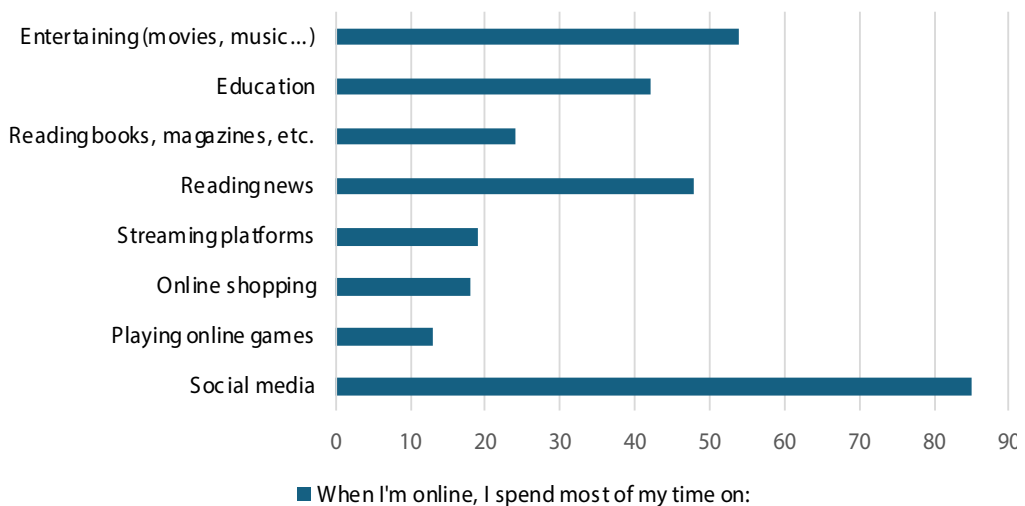
FIGURE 1: *Online activities of the respondents*
Source: own processing, 2024

Figure 1 shows a significant majority of respondents, specifically 85%, which spend most of their time on social media, indicating its dominant role in their daily digital interactions. Additionally, 54% of respondents engage in online entertainment, such as movies and music, suggesting that leisure activities are also an important component of their online experience. Notably, 48% of participants prioritize reading news, reflecting a strong inclination towards staying informed about current events. Education also plays a role in respondents' online activities, with 42% indicating that they utilize digital platforms for learning purposes. Conversely, engagement in activities such as reading books, magazines, and online shopping is comparatively lower, at 24% and 18%. The further data shows that only 19% of respondents use streaming platforms regularly, while a mere 13% engage in playing online games. These findings underscore the diverse ways in which respondents interact with online content, with a predominant focus on social media and information consumption.

No	Items	Agree (N)	Don't know (N)	Disagree (N)
M1	I open an email attachment from strangers.	23	14	55
M2	I open an email attachment if it has interesting subject line.	34	19	39
M3	I am very sure of the status of anti-virus software on my personal computer.	42	32	18
M4	I open attachments with multiple extensions.	16	34	41
M5	I have a sense something is wrong if computer runs extremely slowly.	57	12	22
M6	I download freeware on the Internet.	26	25	41
M7	I scan removable drives prior to using them on my personal computer.	33	29	30
M8	I installed anti-virus software, firewall and anti-spyware.	57	13	22
M9	I download materials from insecure sites.	28	8	56
M10	I apply security patches as soon as possible.	46	28	17

TABLE 2: *Student's cybersecurity behaviour on malware*
Source: own processing, 2024

The data in Table 2 reveals significant aspects of students' awareness and behaviour concerning cybersecurity. While 61% of participants report having installed antivirus software, firewalls, and antispyware, it is concerning that 34% are unaware of the status of this software on their computers, and 20% are unsure of its effectiveness (M8 and M3). This uncertainty may indicate a lack of training or awareness regarding the importance of regular maintenance and updates of security tools, which can leave computers vulnerable to attacks. Considering that more than 60% of respondents can recognize symptoms of a slow computer as a potential sign of problems (M5), it is important to notice that 24% do not identify this situation as a possible indication of malware. This data may suggest that while students are aware of symptoms, they lack knowledge about how to properly respond to these symptoms. The literature often emphasizes that recognizing threats and taking appropriate action are key components of effective protection (Bojanić et al., 2016). Furthermore, the finding that around 30% of respondents answer "I don't know" to questions related to basic security practices (M3, M4, M6, M7, and M10) highlights a serious problem regarding the lack of awareness of their own behaviour in the digital environment. This uncertainty may indicate that many students are not cognizant of the importance of implementing security measures, such as scanning removable devices or applying security patches. This raises serious questions about their preparedness to deal with potential threats, especially regarding risks such as opening email attachments from unknown senders or downloading files from insecure websites. In this context, the research findings underscore the urgent need for educational programs focused on raising cybersecurity awareness among students. Educational courses and workshops that address practical skills as well as theoretical understanding of threats could significantly enhance their ability to recognize and respond to risks.

No	Items	Agree (N)	Don't know (N)	Disagree (N)
P1	My passwords don't follow keyboard patterns.	52	20	20
P2	I share passwords with other people.	6	2	83
P3	I use different passwords for different applications.	62	8	22
P4	My passwords consist of lowercase, uppercase, numbers, special characters	78	8	6
P5	I use passwords longer than 8 characters.	85	3	4

P6	My passwords are based on personal information.	28	12	51
P7	I never change passwords.	24	10	57
P8	I use "Remember my password" option.	53	12	27
P9	I used to write down my passwords.	58	10	23
P10	I never use "hint" to recover forgotten password.	31	23	37

TABLE 3: *Student's cybersecurity behaviour on password usage*
Source: own processing, 2024

Table 3 shows interesting insights into the password security practices of respondents. While nearly 90% report that they do not share their passwords with others (P2), and a significant 91% use passwords that are longer than 8 characters (P5), there are still concerning trends. Notably, 84% create passwords that incorporate a mix of lowercase and uppercase letters, numbers, and special characters (P4), indicating a good understanding of complexity requirements. However, it is troubling that 55% of respondents use passwords based on personal information (P6). This practice can significantly weaken password security, as personal information is often easily accessible or guessable. Additionally, 63% of respondents admitted to writing down their passwords, which poses another risk, especially if these notes are not stored securely. The fact that 26% of them never change their passwords (P7) further emphasizes potential vulnerabilities, as stagnant passwords can become targets for attackers over time. On a positive note, 67% of respondents use different passwords for different applications (P3), which is a commendable security practice that can limit exposure in the case of a data breach. Moreover, 56% reported that their passwords do not follow predictable keyboard patterns, suggesting a level of awareness regarding common password vulnerabilities. Overall, while there are some positive aspects to the password practices of the respondents, the reliance on personal information and the tendency to write down passwords indicate areas where improvement is needed.

No	Items	Agree (N)	Don't know (N)	Disagree (N)
Ph1	I am upgrading my phishing knowledge by reading phishing materials.	34	29	28
Ph2	I am not a target of phishing attacks because I am a student.	14	38	39
Ph3	I provide confidential information to any types of emails.	10	30	51
Ph4	I click hyperlinks in email messages.	20	19	52
Ph5	I trust any email messages announcing contests/prizes.	10	12	68
Ph6	URL must be "https" if I'm transmitting confidential information.	27	43	20
Ph7	Padlock symbol is a must to transmit sensitive information.	20	61	10
Ph8	I prefer to type URL in a new browser rather than clicking on hyperlinks.	20	39	32
Ph9	Receiving suspicious emails will prompt me to contact the relevant party for verification.	32	29	29
Ph10	I check URL spelling prior to any types of transactions.	33	33	25

TABLE 4: *Student's cybersecurity behaviour on phishing issues*
Source: own processing, 2024

The data in Table 4 highlights critical gaps in respondents' knowledge and awareness related to phishing and secure information transmission. Notably, 30% of respondents do not actively seek to upgrade their knowledge about phishing threats, while 31% answered

"I don't know" regarding their awareness of phishing (Ph1). This lack of proactive engagement with cybersecurity education raises concerns about their vulnerability to phishing attacks. A particularly alarming finding is that 46% of respondents are unaware that URLs must begin with "https" when transmitting confidential information, and 22% believe that this is not necessary (Ph6). This indicates a fundamental misunderstanding of secure online practices, which could lead to significant risks when handling sensitive data. Additionally, 66% of respondents do not recognize the necessity of a padlock symbol when transmitting sensitive information, and 11% incorrectly believe that it is not essential (Ph7). The absence of knowledge about these security indicators can expose users to threats, as they may unknowingly provide personal information over insecure channels. Moreover, 33% of respondents are unsure if they might provide confidential information in response to any type of email, and 11% admit to providing such information (Ph3). This uncertainty about the legitimacy of email requests can increase the risk of falling victim to phishing scams. On a more positive note, almost 35% of respondents indicated that they would contact the relevant party for verification upon receiving a suspicious email (Ph9), and 36% reported that they check the URL spelling prior to any transactions (Ph10). These behaviours demonstrate a degree of caution and awareness that is essential for protecting personal information online. Overall, while there are some encouraging signs of vigilance among respondents, the high percentages of uncertainty and misinformation surrounding key security practices emphasize the urgent need for targeted education and training on phishing and online safety. Enhanced awareness and proactive measures can significantly mitigate the risks associated with phishing attacks and secure the transmission of sensitive information.

No	Items	Agree (N)	Don't know (N)	Disagree (N)
S1	I am not interested in reading social engineering issues.	28	32	30
S2	I am willing to reveal username and password to anyone claiming to be system administrator.	12	16	63
S3	I am not a target of social engineering attacks because I am a student.	12	34	45
S4	I respond to calls, SMS, or email messages to friendly/non-threatening strangers.	23	15	53
S5	I follow instructions given by people who speak with authority.	27	26	38
S6	I provide passwords to a help desk.	11	29	51
S7	I check the authorization or identity of someone before talking on any issues.	59	16	14
S8	I don't feel intimidated with questions by someone.	35	34	21
S9	I wouldn't communicate with a stranger although his/her looks warrant sympathy.	35	31	25
S10	I wouldn't reveal any confidential information under any circumstances.	61	20	10

TABLE 5: *Student's cybersecurity behaviour on social engineering*
Source: own processing, 2024

Table 5 presents important insights into respondents' awareness of social engineering attacks. Notably, 37% of respondents are uncertain about whether they are targets of social engineering attacks due to their status as students, while 13% believe they are not targeted for this reason (S3). This uncertainty suggests a lack of awareness regarding the risks associated with being a student in a potentially vulnerable position. Encouragingly, about 66% of respondents indicated that they would not reveal any confidential information under any circumstances, reflecting a commendable level of awareness about social engineering tactics (S10). However, there are concerning trends: 30% of respondents express no interest in reading about social

engineering issues, and 35% answered "I don't know" when asked about their knowledge on the topic (S1). This lack of interest and knowledge can leave them more susceptible to manipulation by malicious actors. Additionally, 32% of respondents are unsure whether they would provide their passwords to a help desk, and 12% admit that they would (S6). This ambiguity can pose serious risks, as it highlights a potential vulnerability in trusting unverified sources. Furthermore, 29% of respondents indicated that they would follow instructions from individuals who present themselves with authority (S5), which can lead to dangerous situations if those individuals are not legitimate. On a positive note, 64% of respondents reported that they check the authorization or identity of someone before discussing any issues (S7). This behaviour reflects a proactive approach to safeguarding their information and demonstrates an understanding of the importance of verifying identity in interactions. Overall, while there are some positive indicators of awareness and caution among respondents regarding social engineering, the significant percentages of uncertainty and disinterest highlight critical areas that need to be addressed. Both formal and informal educational initiatives aimed at increasing awareness and knowledge about social engineering tactics could greatly enhance students' ability to protect themselves from such attacks.

No	Items	Agree (N)	Don't know (N)	Disagree (N)
O1	I established trusted online relationships with strangers.	23	14	55
O2	I ignored emails from well-known organizations regarding announcements on something unusual or too good.	44	24	24
O3	I respond to SMS announcing contests involving huge sums of money.	9	10	73
O4	I never trust strangers identity information given on the Internet.	57	23	12
O5	I never consider any amount of money for services offered by an online site.	57	24	11
O6	I am willing to deposit money requested by online friends.	5	12	75
O7	I am aware of and able to identify the latest online scams.	50	24	18
O8	I trust strangers' pictures posted on the Internet.	5	17	70
O9	I never receive parcels and gifts from Internet friends.	54	19	17
O10	I wouldn't hesitate to meet face-to-face with Internet friends.	23	24	45

TABLE 6: *Student's cybersecurity behaviour on online scam issues*
Source: own processing, 2024

Data from Table 6 indicates that respondents demonstrate a relatively high awareness of issues related to online scams. Approximately 61% of them reported that they never trust identity information provided by strangers on the Internet (O4), and a corresponding 61% stated they would never consider any amount of money for services offered by an online site (O5). These findings suggest a cautious approach toward online interactions, which is crucial in an era where online scams are increasingly prevalent. However, there are concerning gaps in knowledge. About 26% of respondents are unsure whether they can identify the latest online scams, and 20% believe they are not capable of doing so (O7). This uncertainty highlights the need for improved education and awareness regarding the evolving tactics used by scammers. In terms of financial transactions, a notable 81% of respondents expressed that they are unwilling to deposit money requested by online friends, while 13% were unsure, and only 5% indicated that they would comply (O6). This suggests a strong sense of scepticism when it comes to

financial requests from online acquaintances, which is a positive sign for potential vulnerability to scams. Conversely, around 25% of respondents reported having established trusted online relationships with strangers (O1), and the same percentage expressed a willingness to meet face-to-face with internet friends (O10). This indicates a level of comfort and trust that could be risky if not approached with caution. Furthermore, our research underscores the importance of collaboration between educational institutions and industry stakeholders to ensure that educational initiatives address current needs and challenges in the field of cybersecurity. By fostering partnerships, we can enhance the effectiveness of training programs and better equip individuals to navigate the complexities of online environments securely. In conclusion, while there are positive indicators of awareness among respondents regarding online scams, there remain significant areas for improvement, particularly in knowledge about identifying scams. Targeted educational efforts that address these gaps can greatly enhance overall cybersecurity awareness and protect individuals from potential online threats.

3.2 Qualitative Research

All respondents stated that they had experienced a situation where they felt their online security was compromised or at risk. The most common challenges were related to social media profiles (Facebook and Instagram), specifically hacking or deletion of profiles. This highlights a growing concern among users regarding the vulnerabilities associated with widely used platforms. Additionally, respondents received emails from seemingly relevant addresses, which were phishing messages: (P:5) "Facebook once sent me a notification that I could file a lawsuit against them because my data were stolen while I was visiting the USA. To this day, I don't know where that data was used or for what purpose". This statement reflects the anxiety individuals feel when their personal information is at risk, emphasizing the need for clearer communication from companies regarding data breaches.

As for specific security threats, such as malware, phishing, social engineering, and online scams, respondents say that they regularly update their antivirus software to ensure system stability and its improved ability to detect issues. This proactive behaviour indicates an awareness of the importance of maintaining robust security measures. Additionally, they are aware that they need to react if their computer is running unusually slowly. This self-monitoring is a key aspect of digital literacy, demonstrating an understanding that system performance can signal underlying security issues. They first try to determine the cause themselves, and if they fail, they consult with experts. Only one respondent is not sure that she can recognize malware, while the others claim that they are successful in this. (P:1): "I'm confident in my ability to identify malware. For example, if I notice that the computer is running unusually slowly or unexpected pop-up windows appear, I immediately suspect the presence of malware and run an antivirus scan". Such confidence suggests a level of education and familiarity with technology that may not be universally shared by all users.

Three respondents say they do not use the same passwords for different accounts, two of them use similar ones (and are aware that this is risky), while one respondent says she uses identical passwords for several different accounts. This variance in password management reflects differing levels of risk tolerance and awareness among respondents. Two respondents admit that they very rarely (or almost never?) change their passwords, while two respondents show an extremely high awareness of the necessity of regular password changes and do so every two months. This contrast underscores the need for ongoing education about password security and the risks associated with complacency. One respondent stated that she does not check security indicators such as "https" before entering sensitive information online, while other respondents do so regularly. This highlights a critical gap in knowledge that could potentially expose individuals to significant security threats. Three respondents stated that they have

encountered attempts at online scams (abuse in online shopping and fake job offers) and that they regularly check the identity of email and message senders. Only one respondent mentioned that if the message/email came from a sender known to be in an authoritative position, she does not check the sender's identity. This illustrates the complexities of trust in digital communications and the need for a more nuanced understanding of online interactions. Three respondents have not been in a situation where someone asked for their personal information, while two have, and they felt quite uncomfortable about it. This discomfort signals an awareness of personal boundaries in digital contexts, which is crucial for maintaining online safety.

When it comes to meeting in person with people they meet online, respondents say they have had such experiences. They either schedule meetings in a public place in the city centre or take another person with them for greater security. This careful approach shows a commendable level of caution and understanding of the potential risks associated with offline interactions stemming from online relationships. Of course, these meetings were preceded by longer-term online contact and acquaintance.

In the qualitative research, there was a special emphasis on respondents' personal good cyber security practices and behaviours, as well as areas for cyber security improvement. When asked what good cyber security practices they currently follow, the respondents answered: (P:4) "Checking websites and using different and strong passwords. I am aware that I can be a victim of phishing and catfishing at any moment"; (P:5) "Keeping my information private and maintaining an antivirus"; (P:1) "I currently follow practices such as regular software updates and regular computer virus scans". These responses reflect a range of effective strategies that individuals employ, yet they also reveal a disparity in knowledge and practices among different users. One respondent admitted that she does not have enough knowledge about good cyber security practices, and one respondent stated that he attends cyber security training. This suggests that while some individuals actively seek to enhance their knowledge, others may not have the same opportunities or motivation. Areas of cyber security in which respondents feel they need more knowledge or improvement are recognition of AI-created content, advanced protection techniques against various frauds, protection of personal data, multiple authentication, and legal protection against attempted online harassment.

The last topic we discussed in the interviews is whether respondents believe that education has adequately prepared them to deal with cyber security threats, what additional resources or training would help them improve their awareness and practices, and whether it is important to include cyber security education into the formal curriculum of their studies. The respondents agree that their previous education (from elementary school to university level) did not prepare them enough to deal with online threats and that they learned most things about cyber security independently thanks to their own interest and research. This finding underscores a critical gap in the educational system regarding cyber security training. Therefore, additional resources and training would certainly be valuable. (P:1) "Additional resources such as online courses, seminars, and webinars on cybersecurity would help improve my knowledge and practices"; (P:4) "I think that every faculty and university should hold a seminar about cyber security once a year, which would be mandatory, or that certain professors include a section on cyber security in their lectures and within their subject". These suggestions reflect a proactive desire for institutional support in enhancing cyber security education. Also, all respondents agree that cyber security topics should be incorporated into the curricula of their studies. This consensus suggests a recognition of the importance of equipping future generations with the necessary skills to navigate an increasingly complex digital landscape. This, they believe, would prepare students better for facing modern threats and to develop awareness of the importance of protecting their digital data.

The results of the qualitative research indicate significant challenges and gaps in awareness of cybersecurity among students. While most respondents demonstrate a certain level of confidence in recognizing and managing security threats, there is a clear need for additional

education and resources to enable them to better understand and implement good practices. Empowering students through systematic education on cybersecurity can significantly reduce the risks associated with online interactions. Ultimately, it is evident that education is crucial for developing awareness of the importance of protecting digital data, which will help shape a safer online environment for all users.

4 Discussion

The combined insights from both quantitative and qualitative research underscore a critical picture of cybersecurity awareness and practices among students from Bosnia and Herzegovina, Serbia, and Montenegro. Our findings indicate that while a significant number of participants exhibit some awareness and engage in positive cybersecurity practices, a troubling percentage remain uninformed about essential security measures, thus exposing themselves to various risks.

Quantitatively, the data revealed that while 61% of respondents utilize antivirus software and 85% are active on social media platforms, still considerable number remain unaware of fundamental cybersecurity concepts, such as the importance of checking for "https" in URLs or recognizing phishing attempts. This aligns with Muniandy et al. (2017), whose research highlighted the vulnerabilities in user behaviour that could lead to security threats. Similarly, Huraj et al. (2023) observed that despite a recognition of cybersecurity's significance among students in differing disciplines, actual behaviours often do not reflect this awareness, indicating a gap between knowledge and practice.

Qualitatively, interviews with participants revealed a range of self-reported cybersecurity practices. While many acknowledged the importance of using strong, unique passwords, a notable proportion admitted to using easily guessable passwords based on personal information or neglecting to change their passwords regularly. This inconsistency mirrors findings from Ahamed et al. (2024), which demonstrated a positive correlation between cybersecurity knowledge and password management practices. Our research further emphasizes the necessity for educational interventions targeting password security and overall cybersecurity awareness.

Respondents also expressed a common sentiment that their formal education has not sufficiently prepared them for the complexities of modern cyber threats. This aligns with findings from López Mendoza et al. (2023), which advocate for enhanced curricular and extracurricular training in cybersecurity. Participants in our study specifically requested additional resources, such as online courses and seminars, to bolster their understanding and application of cybersecurity practices.

Finally, aligning with the perspective of Yan et al. (2018), our research reinforces the notion that ordinary users, rather than technological systems, represent the weakest link in cybersecurity. The average cybersecurity judgment among students was notably low, suggesting a pressing need for targeted educational initiatives. By focusing on enhancing students' cybersecurity literacy and practical skills, educational institutions can empower individuals to navigate the digital landscape more safely, ultimately fostering a more secure online environment.

In conclusion, our findings reveal both positive behaviours and significant gaps in cybersecurity awareness among students. The need for ongoing education and proactive measures is clear, as it is essential to equip the younger generation with the tools necessary to mitigate risks associated with their online activities. Future research should continue to explore these dynamics and evaluate the effectiveness of educational interventions aimed at improving cybersecurity practices among students.

5 Conclusion

The triangulation of research methods, in the form of a quantitative questionnaire survey and qualitative research through semi-structured interviews conducted among students from Bosnia and Herzegovina, Serbia, and Montenegro provided significant insights into their behaviours and awareness of cybersecurity, as it allowed for both statistical analysis and in-depth exploration of their experiences and perspectives. The research results show a diversity of practices among respondents, with some demonstrating commendable cybersecurity habits while others are exposed to significant risks. These findings underscore the vulnerability of young internet users and the critical need for enhancing cybersecurity education and awareness programs.

From the quantitative data, while most respondents use internet and social media intensively, their awareness and practices in managing cybersecurity measures vary widely. Qualitative interviews further highlighted students' personal experiences and perspectives on cybersecurity. Respondents expressed shortcomings in formal education on cybersecurity, indicating their need for self-learning to fill these knowledge gaps. They identified specific areas for improvement, such as recognizing advanced online threats and implementing multi-factor authentication. So, it is not enough to know how to use (technically) modern digital devices, software, and applications; it is necessary to take care to protect both your own and others' data. Students are the ones who will enter the job market after completing their studies, become employees of companies and institutions, and have access to a wider range of data, many of which can be vulnerable, confidential, and significant both for the company and the wider community. It is crucial for them to be aware of the above-mentioned aspects of cybersecurity.

Although there are examples of good cybersecurity practices among students, there is a clear imperative to raise awareness and readiness against evolving cyber threats. Enhancing cybersecurity literacy and promoting safer online behaviour will not only protect students but also contribute to a safer digital environment overall. Future initiatives should focus on empowering students to manage the digital space safely and responsibly.

Cybersecurity hygiene can be improved through personal commitment – lifelong learning and self-improvement through training and informal education, as well as by incorporating cybersecurity topics into all segments of formal education. It is not necessary to introduce new subjects of course, rather, cybersecurity topics can be incorporated into existing curricula, because every aspect of our lives today can face online security threats. The foundation for further development and enhancement of cybersecurity through educational initiatives may lie in improving media and information literacy as a strategic commitment to the overall advancement of the cybersecurity domain (Vajzović, 2019). In this context, a hybrid model of the multi-component integration of media and information literacy into the educational system could serve as an educational initiative, which implies a method of integrating media and information literacy into educational systems, both horizontal and vertical integration are included. Vertical integration involves the development of science, research, and lifelong education for future teachers, which will, through science and research, support decision-makers, ensure professional development, and facilitate work with teachers, librarians, and other stakeholders at all levels of the educational system. Horizontal integration entails cross-curricular collaboration between teachers and librarians within curricula and teaching plans, as well as learning outcomes. In this context, the focus is on the principles and content for developing media and information literacy as a foundational competency within the educational system and society (Vajzović et al., 2021).

The strength of this study lies in selection of students from three Balkan countries (Bosnia and Herzegovina, Serbia, and Montenegro), which provides valuable data and expands the discussion on cybersecurity in regions where research activity in this area is comparatively lower. However, future research could focus on identifying cultural and contextual factors influencing the attitudes and behaviours of youth in cybersecurity. Investigating the impact of educational background, field of study, and socioeconomic status on cybersecurity behaviours could provide detailed insights.

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The Transformation of the Slovak Periodical Press Market: Challenges and Opportunities in the Wake of the COVID-19 Pandemic

ABSTRACT

This study examines the transformation of the Slovak periodical press market in the wake of the COVID-19 pandemic, which significantly impacted not only economic indicators, but also the very core of journalistic work. The research aims to evaluate the shifts in print media sales, advertising revenues, and online traffic, while placing special emphasis on the evolving working conditions of journalists. These changes introduced new challenges, such as increased stress, remote work, and safety measures, altering daily routines in the newsroom. Using a mixed-methods approach that combines quantitative and qualitative research, we explore the pandemic's effects on the consumption of print and digital media, as well as its broader implications for the sustainability of the Slovak press market. The study highlights the necessity for the press to adapt to new technological innovations and digitalisation trends, and it outlines both the challenges and opportunities that the industry faces moving forward. This research contributes to a deeper understanding of the media landscape and opens avenues for further sociological, psychological, and economic investigations related to the media's role in a post-pandemic world.

1 Introduction

The COVID-19 pandemic has brought about extensive changes in all areas of social life, with one of the most affected sectors being the media market, specifically the market for periodical press. Due to the imposition of strict measures, such as lockdowns, restricted mobility, and a general decline in economic activity, the print media market faced significant challenges. These factors were reflected in economic indicators, such as the sale of print copies, advertising revenues, and website traffic. Simultaneously, the very nature of journalism changed, as journalists had to adapt to new working conditions that included remote work, altered work routines, and new stress factors brought on by the pandemic environment.The transformation of the Slovak periodical press market was not solely a consequence of the pandemic. This sector had already been undergoing a digital transformation prior to the pandemic's onset, driven by technological advancements and the increasing importance of online media. However, the pandemic significantly accelerated this process. Changes in working conditions, economic fluctuations, and technological innovations impacted not only publishing houses, but also the journalists themselves, whose working environment was drastically altered. These changes were also reflected in the content of periodicals, which had to adapt to constantly shifting social and political conditions caused by the pandemic. The aim of this study is to analyse the transformation of the Slovak periodical press market in the context of the COVID-19 pandemic and to outline the challenges and opportunities that the pandemic has brought. The study also focuses on the analysis of economic indicators, such as print sales, the decline in advertising revenue, and website traffic. Particular attention is paid to the working conditions of journalists and changes in their work routines, while also reflecting on the personal experience of one of the authors, who held key managerial positions in media companies during the pandemic. This experience provides a deeper understanding of the changes in the periodical press market, with the research results highlighting the need for adaptation not only in the market as a whole, but also in the journalistic practice itself, which faces new challenges related to digitalisation and technological innovations.

2 Theoretical Framework

2.1 Definition of Terms

Periodical press, as a medium with a long tradition in both Slovak and global media, underwent significant changes during the pandemic. From a legislative perspective in Slovakia, periodical press is defined by Act No. 265/2022 Coll. on Publishers of Publications, which introduces the concept of a periodical publication. This publication must be publicly distributed or made accessible to the public at least twice a year and must bear an International Standard Serial Number (ISSN). This law extends the definition of periodical press to include news web portals that regularly update content and provide information to the general public. Despite this new legislative framework that reflects technological changes, the basic principles of the market and the journalistic profession remain largely unchanged (*Zákon č. 265/2022 Z. z. o vydavateľoch publikácií a o registri v oblasti médií a audiovízie*, 2022).

Regarding the COVID-19 pandemic, it was a global crisis that began in December 2019, when the SARS-CoV-2 virus had been first diagnosed in the city of Wuhan, China. The pandemic quickly escalated into a worldwide crisis that affected all aspects of social, political, and economic life. Slovakia recorded its first case of infection on March 6th, 2020, and subsequent lockdowns and restrictions significantly impacted overall economic activity. Sectors such as gastronomy, tourism, and transport were immediately affected, but the media market, particularly the print media market, faced specific challenges, including not only a decline in print sales, but also an increase in demand for online news (Pažický & Žúdel, 2020).

2.2 Periodical Press Market before the Pandemic

Before the outbreak of the pandemic, the Slovak periodical press market was already experiencing a decline. This decline was primarily due to the rise of digital media and the growing popularity of online news portals. Traditional print dailies and weeklies faced competition from rapidly updated websites that could swiftly respond to current events and provide real-time information. This trend had been observed in the media sphere for some time, but the pandemic accelerated the process.

Despite the general decline in interest in print media, certain segments of the press maintained stable readership before the pandemic. These included tabloid titles such as *Nový čas*, which, despite online competition, continued to enjoy stable sales. In 2021, *Nový čas* recorded an average daily sale of 51,000 copies, with projections indicating a gradual decline (Hrnčárová, 2023).

2.3 Impact of the Pandemic on the Periodical Press

The COVID-19 pandemic brought about significant changes in the periodical press market, many of which are likely to be long-lasting. The first and most significant impact was the decline in the sales of print dailies and weeklies. Due to lockdowns and mobility restrictions, people had less access to print media, resulting in a sharp decline in sales. According to MediaKlik data, print sales in 2021 dropped by an average of 55%, with titles such as *Nový čas* and *Pravda* experiencing the largest declines. This trend continued into 2022, forcing publishers to reduce production costs and optimise resources (Hrnčárová, 2023).

Another significant impact of the pandemic was the decline in advertising revenue. Advertisers, who traditionally relied on print media, began shifting their campaigns to the online space, which saw an increase in traffic during the pandemic. Publishers, dependent on advertising revenue, were forced to seek new funding models to maintain the viability of their operations during the pandemic.

The pandemic also affected the working conditions of journalists. Many had to transition to working from home, which brought new challenges in the form of altered work routines and new stress factors. These changes had a significant impact on the quality of journalistic work, as journalists faced increased pressure to process information quickly, often without adequate resources. The pandemic also affected editorial teams, who were forced to lay off staff or reduce salaries, leading to increased stress and a decline in the quality of content produced.

3 Methodology

This study employed a combination of quantitative and qualitative research methods to capture a comprehensive view of the transformation of the Slovak periodical press market during the COVID-19 pandemic. This methodological approach allowed us to gain insight not only into quantitative indicators, such as print sales and website traffic, but also to understand how the pandemic affected journalists, their work routines, and the overall perception of their profession.

3.1 Research Design and Sample

The research design was based on the principle of triangulation, combining several research methods to increase the reliability and validity of the data collected. The main methods used were the analysis of secondary statistical data and semi-structured in-depth interviews with journalists. This design was deliberately chosen to examine both the quantitative changes in print sales and online traffic, as well as the qualitative aspects of journalistic work during the pandemic.

3.2 Quantitative Research

The quantitative part of the research involved the analysis of data on print media sales and website traffic from January 2017 to June 2023. This period was deliberately selected – the three years prior to the pandemic provide the necessary context for comparing the changes brought about by the pandemic, and the period up to June 2023 offers sufficient time to analyse the impacts of the pandemic and the market's recovery. The key Slovak dailies, *Nový čas*, *SME*, *Pravda*, *Hospodárske noviny*, and *Plus 1 deň*, were selected for analysis due to their leading market positions and large readership bases.

Data on print media sales were obtained from an independent audit by ABC SR, which regularly monitors print media sales in Slovakia. For website traffic, we used data from IAB Slovakia and Gemius, which provide traffic statistics for Slovak internet pages. These data were analysed to identify trends and changes in reader behaviour before, during, and after the pandemic.

3.3 Qualitative Research

The qualitative research focused on semi-structured in-depth interviews with nine journalists occupying various positions at major Slovak periodicals. The respondents were selected based on their relevance and personal experience with leading newsrooms during the pandemic. The interviewees included editors-in-chief, deputy editors, and section heads who had direct influence on the operation of editorial teams and content production.

These interviews focused on four main themes: changes in work routines, new stress factors, access to information sources, and the digitalisation of journalistic work. The thematic categories were chosen based on prior studies indicating that these areas were most affected by the pandemic (see, e.g., Deuze, 2020; Mathiasová et al., 2022; Višňovský et al., 2023). The interviews were then transcribed and analysed using open coding, allowing for the identification of key themes and patterns emerging from the respondents' answers.

3.4 Research Limitations

Several limitations of the research need to be acknowledged. The quantitative part of the research relies on the availability of public statistical data, which may not fully reflect all aspects of the media market's transformation. For example, print media sales data do not include information on specific reader segments, which could skew the overall picture of audience behaviour. The qualitative part of the research, although providing a deeper insight into journalists' personal experiences, is limited by the number of respondents. In-depth interviews with nine journalists provide only a partial view of the transformation of the market and the journalism profession during the pandemic. Based on these limitations, the results should be interpreted cautiously, and further research is recommended to address these shortcomings.

4 Research Findings

4.1 Print Media Sales in the Period of 2017 – 2023

The COVID-19 pandemic accelerated the decline in print media sales, which had already been noticeable in previous years. Major Slovak dailies, such as *Nový* čas, *SME*, *Pravda*, *Plus 1 deň*, and *Hospodárske noviny* recorded significant declines in sales during 2020 and 2021 compared to the pre-pandemic period. This trend is not isolated, as similar developments can be observed globally, where print media face increasing competition from digital platforms (Mathiasová et al., 2022).

Newspaper	Publisher	Sales (2023)	Print Run (2023)	Change Compared to 2017 (%)
Nový čas	FDP Media a.s.	34,706	59,999	-45.8%
Plus 1 deň	NMH a.s.	24,723	38,793	-39.6%
Pravda	OUR MEDIA SR a.s.	14,322	21,700	-51.2%
SME	Petit Press a.s.	13,798	22,572	-36.8%
Hospodárske noviny	Mafra Slovakia a.s.	7,625	12,346	-52.3%

TABLE 1: *Print media sales in Slovakia (2017 – 2023)*
Source: own processing, 2024

Table 1 presents specific data on print newspaper sales for the period 2017 – 2023, with *Nový* čas experiencing a 45.8% decline, the largest drop among the newspapers surveyed. On the other hand, *Pravda* showed the largest percentage drop in circulation, at over 51%.

4.2 Rise in Website Traffic

While print media sales declined, the traffic to the online platforms of the same newspapers saw a significant increase. Websites, such as sme.sk, pravda.sk, pluska.sk, and cas.sk experienced a sharp rise in visitors during the first wave of the pandemic in 2020, when readers were seeking up-to-date information on the development of the pandemic and the measures being implemented. This increase in traffic continued even after the pandemic measures were eased, indicating that digital news consumption was becoming dominant (Gemius, 2021).

Website	RU Count (2020)	Increase Compared to 2019 (%)
pravda.sk	1.6 million	+32%
sme.sk	2.3 million	+27%
pluska.sk	1.8 million	+25%
cas.sk	2.1 million	+30%
hnonline.sk	0.9 million	+18%

TABLE 2: *Increase in website traffic of major Slovak newspapers during the COVID-19 pandemic*
Source: own processing, 2024

Table 2 summarizes the increase in unique users (RU) on selected websites in 2020 compared to the previous year.

4.3 Economic Impact on Advertising Revenues

Advertising had long been the primary source of revenue for traditional print media. However, the pandemic fundamentally changed the advertising market, as many advertisers reduced their budgets and shifted their campaigns to online platforms (FinStat, 2021). For print media, this meant a dramatic drop in revenues, with some seeing losses of up to 70% (OUR MEDIA SR, 2021).

Publisher	Print Advertising Revenue (2020)	Change Compared to 2019 (%)	Online Advertising Revenue (2020)	Increase Compared to 2019 (%)
OUR MEDIA SR	3.2 million EUR	-70%	1.5 million EUR	+15%
Petit Press a.s.	4.1 million EUR	-45%	2.1 million EUR	+20%
NMH a.s.	2.8 million EUR	-50%	1.8 million EUR	+18%

TABLE 3: *Comparison of print and online advertising revenues (2019 – 2021)*
Source: own processing, 2024

Table 3 compares print and online advertising revenues for the period 2019 – 2021.

4.4 Journalists' Working Conditions During the Pandemic

The COVID-19 pandemic also brought changes to journalists' working conditions, as many editorial offices had to switch to remote work. This transition did not happen without challenges. According to interviews with editorial leaders, over 85% of journalists worked from home during the peak of the pandemic, which introduced new challenges in terms of work organization and team collaboration (Višňovský et al., 2023).

Change	Description	Number of Editorial Offices (2020)
Remote work	Most editorial offices switched to home office	85%
Reduction of staff	Reduction of personnel due to cost-saving measures	30%
Wage reduction	Wages reduced by 10 – 20%	40%

TABLE 4: *Changes in journalists' working conditions during the COVID-19 pandemic*
Source: own processing, 2024

Table 4 shows the changes in the working conditions of editorial offices during the pandemic.

4.5 Future Challenges for the Slovak Print Media Market

Based on the collected data, it is likely that the changes brought about by the pandemic will have long-term consequences. Print media sales are unlikely to return to pre-pandemic levels, requiring publishers to continue their digital transformation and adapt their business models. A significant challenge will also be ensuring the sustainability of online advertising, which will face increasing competition from social media and global digital giants (Jenkins, 2006).

Year	Estimated Decline in Print Sales (%)	Estimated Increase in Online Traffic (%)
2023	-10%	+15%
2024	-12%	+18%
2025	-15%	+20%

TABLE 5: *Predicted trends in print sales and online traffic (2023 – 2025)*
Source: own processing, 2024

Table 5 shows the predicted trends in print sales and online traffic for the coming years.

5 Discussion

The research findings clearly demonstrate the profound changes that the COVID-19 pandemic brought to the Slovak print media market. These changes were not only reflected in declining print media sales and increased website traffic, but also had a deep impact on the entire media ecosystem, including journalistic practice, advertising revenues, and technological innovations. In this section, we discuss the broader implications of these findings, compare them with other studies, and identify key challenges and future perspectives.

5.1 Transformation of the Print Media Market: Decline in Print Sales

The quantitative analysis results indicate that the decline in print media sales was already evident before the pandemic, but the trend significantly accelerated during the pandemic period. Newspapers such as *Nový čas*, *SME*, *Pravda*, and *Plus 1 deň* saw dramatic drops in circulation, with more than a 45% decrease in some cases. The most significant declines were recorded in 2020 and 2021. This phenomenon cannot be solely attributed to the pandemic, but also to a long-standing trend where readers were increasingly shifting to digital formats, and print media faced growing competition from digital platforms (see, e.g., Škarba & Višňovský, 2022; Radošinská et al., 2020, Solík, 2021).

Mobility restrictions and lockdowns associated with the pandemic made it difficult for readers to access print editions, accelerating the transition to online media. This shift was further supported by the growing demand for instant and up-to-date information, which print media could not provide as quickly. The results of our analyses align with international studies that show global media markets face similar challenges.

One of the key questions arising from these results is whether the Slovak print market can recover from the pandemic and whether it will be able to attract readers back to print formats. International studies suggest that a return to pre-pandemic levels of print media sales is unlikely (Jenkins, 2006). Slovak media will therefore need to explore how to effectively transition to hybrid models that combine print and digital formats, focusing on long-term sustainability.

5.2 Increase in Website Traffic: The Future of Digital Media

While print media sales declined, digital media experienced a significant increase in traffic. As the analysis results showed, websites such as pravda.sk, sme.sk, and cas.sk recorded substantial growth in unique users in 2020, as the public sought to access the most up-to-date information on the pandemic. This trend continued even after pandemic measures were eased, indicating that digital media maintained their dominant position in the market (Gemius, 2021).

The increase in website traffic presents a significant opportunity for Slovak media, which are adapting to the digital environment. However, the increase in traffic also brings new challenges, including the need to improve user experience on online platforms and implement sustainable business models for digital content monetization. Many international media companies have already introduced paid content and subscription systems, enabling the financing of quality journalism in the digital space (Jenkins, 2006).

The discussion on the future of Slovak media must consider the fact that the Slovak market is significantly smaller than markets in Western Europe or the United States. This factor may limit Slovak media's ability to invest in technological innovations and introduce new forms of monetization. However, the growing trend of online news consumption also opens up new possibilities, particularly in the areas of digitalization and data utilization for personalized news and advertising.

5.3 Economic Impact: Advertising and New Business Models

One of the biggest impacts of the pandemic on the Slovak print media market was the radical change in advertising revenues. While print advertising revenues plummeted, online advertising experienced a modest increase. The research results showed that media companies such as OUR MEDIA SR saw a decline in print advertising revenues of more than 70%, a significant blow to the economic stability of traditional print media (FinStat, 2021).

Although online advertising grew, this growth was not sufficient to compensate for the losses in print advertising. Advertising revenues are a key factor in financing media, so it will be crucial to explore new forms of advertising that can accommodate changing consumer behavior and technological innovations. Personalized advertising, programmatic advertising, and the use of big data may provide solutions that allow for more effective targeting of ads to specific audiences, thereby increasing the efficiency of advertising campaigns.

5.4 Journalists' Working Conditions: Pandemic Impact on Journalistic Practice

The COVID-19 pandemic also had a significant impact on journalists' working conditions. Our research found that more than 85% of editorial offices had to switch to remote work, bringing new challenges in terms of work organization, team collaboration, and ensuring high-quality content (see, e.g., Višňovský et al., 2023; Solík, 2021; Radošinská et. al., 2020). Working from home meant increased stress for many journalists, as they lacked direct interaction with colleagues and access to sources that were readily available when working in the newsroom.

This phenomenon was not limited to Slovakia. Studies from the U.S. and Europe show similar impacts on journalistic practice, where journalists had to adapt to new forms of work, while also facing increased demands for speed and accuracy in reporting (Deuze, 2020). The future of journalistic practice will largely depend on how newsrooms can adapt the work environment to hybrid models that combine office and remote work.

5.5 Long-Term Effects of the Pandemic and Comparisons with Other Markets

The pandemic presented Slovak media with significant challenges that will have long-term consequences. These changes are comparable to the developments in the global media market, where print media are struggling to survive in the digital age. International studies suggest that

digital platforms will continue to grow at the expense of print media, with hybrid models offering a potential path for the survival of traditional formats (Jenkins, 2006).

However, Slovak media face specific challenges, particularly regarding the market size and limited resources for technological innovation. For this reason, it will be crucial for Slovak media companies to seek partnerships with international firms and invest in new technologies that enable more efficient operation in the digital market. Comparisons with other markets show that the future of media will depend on their ability to integrate technological innovations and adapt to new consumer habits.

6 Conclusion

The COVID-19 pandemic brought about widespread changes across many sectors, with the print media market being no exception. Our research findings clearly show that the Slovak print market was already in a state of crisis before the pandemic, but the pandemic itself accelerated the deepening of this crisis. While digital media demonstrated a relatively flexible ability to adapt to changing conditions, traditional print media faced enormous challenges that required rapid adaptation and innovative approaches.

6.1 Key Research Findings

The research results indicated that the sales of print media in Slovakia had been steadily declining since 2017, with the COVID-19 pandemic exacerbating this decline. Newspapers such as *Nový čas, SME*, *Pravda*, and *Plus 1 deň* saw dramatic drops in circulation during 2020 and 2021, with some recording declines of over 45%. This decline was caused by a combination of several factors. First, restricted access to print media due to lockdowns and mobility restrictions led readers to increasingly turn to digital sources of information (Hrnčárová, 2023). Second, there had already been a long-standing trend towards digitalization that print media struggled to manage effectively.

However, the pandemic also showed a positive impact on the growth of digital media traffic. Websites like sme.sk, pravda.sk, pluska.sk, and cas.sk experienced record increases in visitors during the first wave of the pandemic in 2020. For instance, sme.sk saw a rise in unique users of over 27% compared to pre-pandemic levels, and this trend persisted in the following years (Gemius, 2021). This phenomenon highlights that digital media are becoming the dominant channel for delivering information to the public.

Another significant finding of the research was the shift in advertising revenue. Traditional print media had long relied on advertising as a major source of income, but during the pandemic, they saw a dramatic drop in ad revenue. Media companies like OUR MEDIA SR recorded a decline in print advertising revenue of over 70% (FinStat, 2021). This loss was partly offset by the growth of online advertising, which increased by 15-20% during the pandemic, but the overall decline in ad revenue could not be fully compensated.

The pandemic also significantly impacted working conditions in editorial offices. Most Slovak newsrooms transitioned to remote work, with over 85% of editorial staff working from home. This transition brought new challenges, particularly in terms of technological infrastructure, work organization, and team dynamics. Journalists faced increased stress, salary cuts, and job insecurity, which negatively impacted the quality of journalistic production, as many newsrooms were forced to operate in cost-saving modes and reduce staff numbers.

6.2 Future Perspectives and Challenges

One of the biggest challenges facing the Slovak print market is the need for further digitalization and technological innovation. As the research showed, digital platforms demonstrated their ability to quickly adapt to new conditions, while print media lagged behind. This means that publishers must actively seek new ways to monetize digital content and attract readers. They must also invest in technologies that enhance the user experience on their online platforms (Jenkins, 2006).

Technological innovations, such as the use of artificial intelligence, content personalization, and data journalism, can play a key role in the future transformation of the media market. Artificial intelligence, for example, can assist journalists in automating certain tasks, such as gathering and processing large amounts of data, allowing them to focus on more analytical and creative work. Content personalization through advanced algorithms can, in turn, increase reader engagement and allow publishers to better target advertising, providing them with new revenue streams.

In the long term, it will be essential for the Slovak print market to adapt to the ongoing trends of digitalization. Traditional business models that rely on the sale of print copies and advertising are no longer sustainable in the digital age. Publishers will need to experiment with new forms of monetization, such as introducing paid subscription models, offering exclusive content, and utilizing new forms of digital advertising (Hrnčárová, 2023).

A significant opportunity for the future lies in the use of technological innovations in content distribution. Platforms such as podcasts, videos, and interactive formats can attract new audience segments and increase the overall reach of media companies. These innovations also allow media to experiment with different forms of content production that appeal to a younger, tech-savvy audience (Jenkins, 2006).

6.3 Long-Term Effects of the Pandemic

The COVID-19 pandemic has changed the Slovak media market in many ways, with some of these changes likely to be permanent. Traditional print media continue to struggle with the challenges of digital transformation, facing major losses in the advertising market and a decline in print circulation. On the other hand, digital platforms have demonstrated their ability to adapt to new conditions, and their traffic increased significantly during the pandemic (Gemius, 2021).

In terms of the future of the Slovak media market, a key question will be how media companies can integrate technological innovations into their business models and adapt to the changing dynamics of information consumption. Major challenges will include maintaining sustainable revenues from online advertising, expanding subscription services, and optimizing content distribution for new digital platforms.

At the same time, more attention will need to be paid to the working conditions of journalists, who faced increased stress and uncertainty during the pandemic. In the future, it will be important to create sustainable working conditions that allow journalists to focus on the quality and analytical depth of their content, while also reducing the pressure associated with working from home and the digitalization of journalistic work.

The research findings clearly demonstrated that the COVID-19 pandemic had a significant impact on the transformation of the Slovak print market. Traditional print media suffered substantial losses, while digital platforms became the dominant source of information. Publishers must face the challenges associated with digitalization and technological innovations, and they will need to find new forms of monetization and expand their activities in the online space. At the same time, it will be essential to create sustainable working conditions for journalists, who are a key component in the successful transformation of the media market in the future.

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Ferihan Ayaz, Hakan Ayaz

Perceptions of Students Taking Media Literacy Course on Content of 6-7 February 2023 Earthquakes

ABSTRACT

This study aimed to examine the perceptions of students taking a media literacy course about the content shared during the Kahramanmaraş earthquakes within the framework of media literacy theories. Structured interviews were conducted with 30 students. The participants experienced problems such as access and infrastructure problems, conscious access restrictions, disinformation and panic news. They struggled with competencies such as "cognitive skills", "emotional skills", "moral skills" as pointed out by Potter (2016) and "critical thinking" emphasized by theorists such as Hobbs (2010) and Brown (1998). Participants mainly confirmed their information by following official sources, government, teyit.org, Kandilli Observatory, AFAD and AHBAP as a private aid association. Participants predominantly received information from X, but also used applications such as WhatsApp, Telegram, Instagram and Facebook, and confirmed information from multiple sources, as Kellner and Share (2019) point out. As Jenkins (2006) points out, although they were active participants, they experienced problems due to disinformation. This reveals that digital media literacy in particular needs to become widespread.

KEY WORDS

Crisis Journalism. Disaster. Disinformation. Earthquake. Earthquake Journalism. Media Literacy.

1 Introduction

Crisis communication is a highly sensitive type of journalism in which journalists' emotions play a role. With this type of reporting, journalists are under the pressure of different conditions such as social, situation-specific, ideological, political, economic, cultural, etc. (Kotišová, 2019). However, with the widespread use of the internet, especially after the 2000s, mobile phones have started to play an important role in crisis communication (Gordon, 2007). In the earthquake that hit Kahramanmaraş-Turkey on 6-7th February, one of the most used communication tools was the mobile phone (Tuna, 2024). Therefore, when it is considered that most of the communication is made via social media, it has become important to evaluate the information obtained from mobile phones as a medium in the context of media literacy. The question of how people manage their media literacy skills during an earthquake, when crisis communication becomes vital, constitutes the starting point of this study.

In this study, structured interviews were conducted with 30 students selected from those taking the media literacy course at Gaziantep University, Faculty of Communication, Department of Journalism, and information was obtained about the student's access to information during the earthquake, the ways of confirming the accuracy of information, and the sources they used the most. In this way, the aim was to reveal the perceptions of students, who should be more sensitive to media literacy, in relation to the media in the context of receiving information during the earthquake.

1.1 Crises Reporting Journalism

Crisis comes from the ancient Greek word *krinenin*; it means to decide, to choose, to separate (Cunningham, 2020). The word crisis, which was adopted especially in the fields of law, medicine, theology, economy and politics in the 17th century, gradually became a part of daily life (Vincze, 2014).

One of the areas where the word crisis has been used most recently is the media, especially with the diversification and development of digital platforms. Crisis journalism is a type of journalism that shows the meaning of unexpected danger. It is about "scary, alarming and bloody" news (Umeogu and Ifeoma, 2012). For this reason, due to the nature of the crisis, journalists sometimes have difficulty in reporting crisis events and conveying such events properly (van der Meer et al., 2017). Limited public information in crisis situations often leads to speculation (Veil, 2012).

Crisis periods have the potential to affect journalism practices, often negatively, and the reporter may experience a dilemma between giving fast news and giving accurate news. The desire of reporters to achieve instant results may lead to many faults (Brautović et al., 2019).

1.2 Kahramanmaraş 2023 Earthquakes and Access to Information

Turkey is one of the countries where various types of disasters occur. The most common disasters in Turkey are earthquakes and floods (Nazlı & Soylu, 2023; Gözükızıl & Tezcan, 2023).

In the Kahramanmaraş-centred earthquakes that occurred on February 6th, 2023, many citizens lost their lives and hundreds of thousands of citizens were injured (Nazlı & Soylu, 2023). In the early hours of February 6th, 2023, a 7,8 magnitude earthquake occurred in the Kahramanmaraş region of southeastern Turkey. Nine hours later, another earthquake of magnitude 7,6 occurred. According to the statements made in March 2023, a total of 57,000 people died in the earthquakes, 50,000 in Turkey and 7,000 in Syria (Hussain et al., 2023).

During the earthquakes, there was a need for information flow, especially from cell phones. Looking at the data obtained by the verification platform teyit.org, which analyzed suspicious content on social media between February 6th and March 28th, 2023, it was seen that 98 news items were false, 8 news items were true and 4 news items were mixed (Aydın, 2023).

It has been stated in many studies that disinformation carries a great risk when it comes to digital media (Rosenberg et al., 2020; Jeong et al., 2012; Vraga & Bode, 2017). People who improve their media literacy skills are less exposed to misinformation (Damico et al., 2018; Jones-Jang et al., 2019; Lee, 2018; Jeong et al., 2012).

Presenting previously experienced earthquakes as news and content that is taken out of context paved the way for manipulation. Platforms such as yalansavar.org dogrulukpayi.com, malumatfurus.org and teyit.org have become critical in the fight against disinformation. It is especially important not to interrupt the wireless communication network in disasters (Aydın, 2023; Maden, 2023; Güngör, 2023; Bozkurt & Demir, 2023; Ortaç & Yıltaş-kaplan, 2021).

1.3 Media Literacy and Some Principle Theories

According to Ofcom the definition of media literacy is as follows: "The ability to access, understand and create communications in a variety of contexts" (2004, p.10). Based on these researchers, themes such as participation, choice, compliance with ethical principles, criticality, communicativeness and access come to the fore in media literacy. These principles are important enough to affect even human life in times of crisis.

Researchers working on media literacy have put forward many different theories. Kellner and Share (2019) stand out with their Critical Media Literacy theory. They emphasize empowering individuals to critically analyze media. They advocate for:
- cross referencing: verify information from multiple sources;
- source evaluation: check the reliability of the source;
- fact-checking tools: use tools like Snopes or FactCheck.org.

Buckingham (2003) developed the Media Education Paradigm. It emphasizes critical thinking, media analysis and active engagement. Critical analysis is about understanding the purpose and biases of media sources. Media production is about creating content to understand its impact. Cultural context is about recognizing how culture shapes media interpretation. Mihailidis (2014) developed the Digital Media Literacy Model. This model emphasizes:
- critical thinking;
- ethical awareness;
- active participation.

Furthermore, Hall (1980) blended cultural studies with media literacy. According to him, encoding and decoding are used to encode media messages. Silverblatt et al. (2014) developed the Multidimensional Media Literacy Model. Jenkins (2006) developed the theory of Participatory Culture and Media Education. Gordon and Mihailidis (2016) developed the Civic Media Literacy model. Jolls and Thoman (2008) developed a model called Empowerment Spiral. Their basic theme were awareness, analysis, reflection and action. This model emphasizes continuous learning and application, empowering individuals to become more critical consumers and producers of media.

Other important theories on media literacy are as follows: McDougall (2019) Media Literacy as a Social Practice, Scolari et al. (2018) Transmedia Literacy, Freire (1970) Critical Pedagogy of Media Literacy, Eco (1976) Media Literacy and Semiotics, Messaris (1994) Visual Literacy, Prensky (2001) Digital Natives and Digital Immigrants. Although Eco's theory is not specifically related to media literacy, it provides foundational concepts that are crucial for understanding how media messages convey meaning. Prensky's model concepts highlight generational

differences in interacting with technology, crucial for understanding varying levels of media literacy. According to Brown (1998), media literacy is related to cognitive processes in critical thinking. For him, meaning depends on what audiences bring to their media experiences (selective perception), the context in which they use media (coherence), and how and why they use media (use and pleasures).

Potter (2016), known for his Cognitive Model of Media Literacy, states that media messages can have harmful as well as positive effects.

In Potter's (2016) media literacy theory, 4 domains are extremely important:
- cognitive;
- emotional;
- aesthetic;
- moral.

While the cognitive domain is related to how participants use their own knowledge to access information, the emotional domain includes people's emotional responses to noise factors such as misinformation. It also refers to their ability to recognize and cope with their own emotions. The aesthetic domain is about how they evaluate the artistic and visual features of the media content. The moral domain is about users' ability to make ethical evaluations.

Hobbs (2010), who developed the Empowerment Spiral Model, emphasizes the importance of access, analysis, evaluation, creation and participation in understanding and using media effectively. These five competencies work together. The analysis is about critically analyzing media messages. Evaluation is about assessing the credibility and quality of media prompts. Creativity is about producing your own media content and expressing your thoughts effectively. Participation is about actively participating in digital communities.

Livingstone et al. (2005), who developed Media Literacy and Civic Engagement, state the three main purposes of media literacy. These are:
- democracy, participation and active citizenship;
- knowledge economy, competitiveness and choice;
- lifelong learning, cultural expression and personal fulfillment.

Since media literacy adopts a critical approach at its core, it supports an informed, creative and ethical society. According to Livingstone et al. individuals should:
- evaluate sources: Check the intention behind news sources and their credibility;
- understand context: Understand how context shapes information;
- identify biases: Be aware of potential biases in the news.

In summary, it can be said that media literacy theories are based on the themes of critical thinking, ethical sensitivity, active participation, emotional competencies, and awareness of prejudices. In this study, students' perceptions of the flow of information about the earthquake were discussed within the framework of basic media literacy theories.

2 Methodology

This study aimed to examine the perceptions of students taking a media literacy course about the content shared during the Kahramanmaraş earthquakes within the framework of media literacy theories. In line with this main objective, three basic questions were asked of students and the answers obtained from these questions were interpreted based on media literacy theories. These questions are as follows:
1. Were you able to access earthquake-related content presented in the media in a healthy way? What were the noise factors that prevented access to information?

2. What kind of verification methods did you use to select the correct information? What were the verification methods developed to eliminate disinformation?
3. Who were the media sources you used the most during the week of the earthquake? Which media tools did you use more functionally?

There are approximately 50 students taking the Media Literacy course at Gaziantep University, Faculty of Communication, and Department of Journalism between the academic years 2020-2024. In the study, structured interviews were conducted with 30 students randomly selected from the students who took this course for four years. Since the course is elective, the number of students taking the course during the semester does not exceed 15.

The study is a qualitative study. Purposive sampling was used. Purposive sampling is a type of sampling in which the most appropriate sample for the purpose of the study is selected and generalization to the universe is out of the question (Grix, 2010; Sale et al., 2002). The selection of the interviewees was based on the fact that the students had experienced the earthquake first-hand and had also taken a media literacy course. Structured questions were sent to the students via e-mail and WhatsApp applications and returned via the same applications. No additional questions were asked. Because the number of students was high, their answers to the above questions were evaluated. All the details in the interviews are details that the students themselves wanted to tell voluntarily. While dividing them into themes, the nature of the subjects they mentioned was taken into consideration. Interviews were conducted between July 10th and August 22nd, 2024.

A two-stage method was used to analyze the responses to the questions. First, thematic analysis was used. Thematic analysis is a qualitative analysis method used to identify, analyze and report patterns (themes) in data. It organizes and describes the (rich) data set in detail. (Braun & Clarke, 2006; Boyatzis, 1998). Secondly, the words obtained from the interviews were transferred to the Word Art program and converted into numerical data through this program. This numerical data showed which words were used more frequently, creating a word cloud, and the context of the interviews was thus schematized.

Details of the interviewees are given in Table 1.

Code	Gender, Province	Age
Participant 1	Female, Gaziantep	51
Participant 2	Female, Gaziantep	24
Participant 3	Female, Gaziantep	22
Participant 4	Male, Gaziantep	40
Participant 5	Female, Gaziantep	38
Participant 6	Female, Gaziantep	23
Participant 7	Male, Gaziantep	24
Participant 8	Male, Gaziantep	22
Participant 9	Female, Hatay	55
Participant10	Female, Gaziantep	31
Participant 11	Male, Gaziantep	26
Participant 12	Female, Gaziantep	29
Participant 13	Female, Gaziantep	18
Participant 14	Female, Gaziantep	20
Participant 15	Male, Gaziantep	27
Participant16	Male, Gaziantep	21
Participant17	Female, Gaziantep	28
Participant18	Male, Gaziantep, Kahramanmaras	30

Participant 19	Female, Gaziantep	38
Participant 20	Female, Gaziantep	27
Participant 21	Female, Gaziantep	23
Participant 22	Female, Gaziantep	22
Participant 23	Female, Gaziantep	25
Participant 24	Female, Gaziantep	21
Participant 25	Female, Gaziantep	21
Participant 26	Female, Gaziantep	20
Participant 27	Female, Adıyaman	25
Participant 28	Male, Gaziantep	46
Participant 29	Female, Kayseri	20
Participant 30	Female, Gaziantep	26

TABLE 1: *Participants*
Source: own processing, 2024

All of the participants are students of Gaziantep University Faculty of Communication. Although some of them lived in Kahramanmaraş, Kayseri and Hatay during the earthquake, all of them experienced the earthquake.

3 Results

In this section, the qualitative analysis of the interviews and the visual and quantitative analysis of the words used in the interviews are under separate headings.

3.1 Qualitative Analysis of Interviews

Under this sub-title, the interviews were analyzed qualitatively under different themes. Access to earthquake-related content was evaluated separately under the themes of verification methods, measures taken against disinformation, and channels followed.

3.1.1 Access to Earthquake Related Content and Noise Factors

Under this heading, the participants were asked the following question: "Were you able to access earthquake-related content presented in the media in a healthy way? What were the noise factors that prevented access to information?" The themes are presented below under headings.

Infrastructure and Access Problems, Disinformation

Participants mainly drew attention to access problems. Participant 2 said "Thanks to social media, access to earthquake-related content was generally healthy. However, there were some noise factors that prevented access to information. Especially misinformation (disinformation) could spread rapidly. Speculation made it difficult to access information. For example, news that a dam had burst in Hatay caused panic, blocked traffic and disrupted business".

Participant 4 pointed out that adequate infrastructure was not provided in the earthquake zone and that the internet connection was cut off. He could not access accurate information, that information of unknown origin was disseminated instantly through social media and that society believed them, the local newspaper was not published anyway. Likewise, Participant 9 mentioned that there was a problem with internet access on the first day, he could not reach his phone because his phone was left at home for the first 3 days.

Another complaint about infrastructure was expressed by Participant 7: "Although the earthquake was not very destructive, especially in our region, it cut off our internet access. This situation showed us once again how bad the internet infrastructure is. Both the media restrictions imposed by the country's rulers and some obstacles imposed by media officials played a big role. There is a backwardness in our country in every field".

Participant 5 stated that access to traditional media was difficult in the first week: "My family and I were accessing earthquake-related content through social media. It was mostly environmental and psychological factors that made access to traditional media difficult. Because in the first period, even if the houses were intact, we could not even enter our homes".

The problem of access was also mentioned by Participant 12: "Of course, information that is difficult to confirm. The earthquake was the closest to the Van earthquake, and images from the Van earthquake were also involved. The information that people who were the source of accusations against Syrians were able to share on social media was difficult to verify. I must say that prejudice is among the noise factors that prevent access to information. Society is more inclined to believe news like disaster news. We don't have the habit of confirming it afterwards. Currently, the internet service is the first to be cut off in times of crisis".

Participant 16 used the following expressions: "I had trouble accessing the right content at first because many people started to share things. The media network was overflowing with such posts. This caused problems in finding the right content". Similarly, Participant 19 stated that the content was distorted.

Participant 23, who mentioned infrastructure problems, said "The biggest problem was internet access. Faced with the earthquake, people moved away from the city centers, which were becoming more and more concretized every day and consisted of high-rise buildings, and preferred to live in remote villages, vineyard houses and workplaces with containers where they felt safer. In these areas, telephone networks had poor reception due to the lack of infrastructure. This situation negatively affected people's communication with each other".

Participant 24 stated the following: "On the first day of the earthquake, we could not have a healthy access. We were experiencing internet problems, and we were in areas with poor infrastructure because we were trying to escape to calmer areas. Since we have been using a simple phone, social media has been our biggest source. Then, we accessed television and followed the news channels".

Participant 18 states that it took time for the access process to be organized as follows: "We tried to get information about the earthquake through news and content provided by mass and social media, but we encountered some problems in the first days. One of the main problems was the lack of electricity due to a malfunction in the energy infrastructure. Later, when the electricity was restored, we were able to use mass communication tools such as TVs, and then we were able to charge our cell phones with power banks distributed to earthquake victims".

Participants generally expressed the problems they experienced with access in the first days of the earthquake. Based on Potter's (2016) media literacy model, it is emphasized to understand and critically evaluate media messages. In emergency situations such as earthquakes, accessing reliable information through social media is crucial for survival. Potter emphasizes the importance of distinguishing reliable sources to make informed decisions. Similarly, Hobbs (2010) emphasizes the need for skills to identify sources quickly and efficiently in accessing information.

Political Influence, Internet Restrictions, Deliberate Access Barriers

Some of the participants raised issues such as politically and ideologically distorted content and broadcast restrictions. For example, Participant 20 expressed his distrust of traditional media as follows: "I could not access information in a healthy way because I once again saw that the traditional media served a certain group of people. I could be informed about the events and people thanks to WhatsApp and Telegram groups created by artists and social media phenomena. I was following X, but I saw that there was a lot of disinformation there.

We witnessed that people exploited the conscience of the society and defrauded them and played with their human values".

Participant 3 said "There were points where I could not access earthquake-related content in a healthy way. Official accounts were oblivious to many problems. The situation that I should especially mention was the restriction imposed at the time of the earthquake, this caused difficulties for earthquake victims in terms of interaction and transportation". Participant 1 also attributed the reason for not being able to access information in a healthy way to information pollution. He stated that the fact that the earthquake covered 11 provinces limited access to information and mentioned the negative impact of political polarization as follows: "The biggest factor in not being able to access information is the government authority imposed on the media and the fact that media organizations affiliated with the opposition resort to disinformation to make the authority look weak". Participant 6 stated that political polarization and pro-government news channels stand behind those who are negligent and that although access to many news sources is available, each news source reflects the news in different ways. She stated that it is difficult to distinguish which is the right news. Participant 8 mentioned misinformation and disinformation, the problem of source reliability in news, negative psychological impact, and delays in official reports.

Participant 25, who evaluated the issue in terms of politicians' restrictions, drew attention to the X block: "I could not have full access to the media, because we were outside for days. The access ban on applications such as X on the internet also prevented us from getting information. The fake news also created content pollution".

Referring to similar restrictions, Participant 28 said "I was able to access the earthquake-related content presented from TVs broadcasting within the permission of RTÜK. The only noise factor that prevented me from accessing information was RTÜK permissions or unauthorizations".

Some participants pointed out that getting information only from mainstream media is not reliable. Although social media provided more diverse information, the uncertainty of the source and information pollution posed a problem. Participant 11 said "I could not access the news in a healthy way because I could only have as much information as the mainstream media presented to us. When I tried to follow the news on social media, there were both too many posts of unknown origin and there were restrictions by the government to prevent sharing on social media". Participant 15 emphasized that social media and mainstream media contradict some information, and that there is a situation of distance and inability to confirm news and events. For example, the participant who stated that they compromised on the news about the looting of belongings said the following: "To give an example; one of the events I heard or saw on social media was that the looting and theft of the houses of people whose houses were destroyed went in parallel in the mainstream media (i.e. television journalism). My access to information was affected by media outlets that reported false and inaccurate news (especially the discourse of social media users) and media organizations that reported incomplete news. The devastating effects of the disaster, political/administrative/institutional etc. access barriers (although I cannot remember exactly, I can add that internet bandwidth was narrowed) were some noise factors".

Participants emphasized the access bans on some content. At this point Hobbs (2010) emphasizes the need for missing voices and neglected perspectives in society to be heard digitally. Similarly, Livingstone et al. (2005) pointed out that context, source credibility and understanding potential biases in news are vital for accessing accurate information. Livingstone et al. (2005) particularly emphasized that political biases can influence the content.

Click Journalism and Distortion of Information

Participant 26 emphasized the negative impact of click journalism: "I was able to access most of the information in the media, but most of the information I accessed was incomplete or misrepresented. People tried to create news for the sake of clicks without understanding what was happening".

Participant 29 criticized the trend of click journalism: "Most of the information was lies, exaggerations. The main reason for this was to arouse people's attention, increase the number of followers and increase the number of clicks".

Hobbs (2010) emphasizes critical thinking and scepticism and urges readers to question clickbait. Similarly, Potter (2016) emphasizes the concept of media intent and influence and helps to identify manipulative content. Livingstone et al. (2005) focus on context and bias and encourage deeper analysis beyond the headlines. Therefore, the concepts of critical thinking, scepticism, media intention, cognitive skills, and focus on context and bias come to the forefront theoretically at this point.

Emphasis on Psychological Breakdown

Participant 17 drew attention to the fact that psychological traumas were experienced more: "The collapse of Gaziantep Castle and the fact that the earthquake was shown as Gaziantep-centered led to a communication breakdown with my families abroad due to temporary network loss. This caused lasting anxiety, fear and panic, and my father suffered a heart attack and cerebral hemorrhage after seeing images of the castle on foreign channels. The speculation about "will there be another earthquake?" and the constant exposure to images of debris and death on television had a deep psychological impact. I could not watch television for a while due to this trauma".

Participant 30 likewise emphasized the panic atmosphere: "I had difficulty accessing healthy information in the first hours. For me, the main factors preventing access to information were crowded groups of people, fear and uncertainty. I was experiencing anxiety due to not knowing what to do and not getting accurate news. Most people around me were in a panic and my efforts to get news were not enough".

Content without Details

Participant 21 complained about news that only gave headlines and no details: "Some noise factors made it difficult to access information. These factors included false or incomplete information, speculative news that could cause panic, unfounded claims spread on social media, and posts from unverified sources. Some news items were only headlined and did not go into detail, preventing full access to information".

Obtaining Information from Friends

Participant 22 emphasized the support of friends in communication: "We were in constant communication with our friends and thus we were able to access accurate information. Today, even the region where the earthquake happened is still debated, so there is no certainty. We had access to information then, but it was very intense. We needed short and precise information because I didn't have time to read the news".

Participant 10 and Participant 27 pointed out that they did not experience problems related to infrastructure, but they had many experiences about information pollution.

In summary, the participants mainly expressed problems related to the interruption of internet access. Some participants especially emphasized and criticized the access barriers caused by the government. The ability to access different media sources and critically analyze the content is also considered important by Hobbs and discussed within digital media theory. Similarly, Hobbs emphasized the importance of "evaluation skills" and drew attention to the importance of assessing the reliability of information (Hobbs, 2010).

3.1.2 Verification Methods for Selecting Correct Information

Participants were asked "What kind of verification methods did you use to select the correct information? What were the verification methods developed to eliminate disinformation?" The themes are presented below under headings.

Trust in Official Sources and Orientation towards Government Officials

It is observed that the participants predominantly prefer to verify from official sources. For example, Participant 3 expresses his views as follows: "I tried to follow official accounts, and I found the posts of institutions and people I found reliable as accurate".

Participant 2 stated that he trusts official statements and said the following: "I check official statements. I also use tools such as reverse image search to verify the source of visual and video content. Today, various methods have been developed to eliminate disinformation. For example, the disinformation law. These have included the use of fact-checking sites, media literacy training, and efforts by social media platforms to detect and remove misinformation. But it is impossible to say that much has been done in the name of clickbait to get views from people". Participant 1 said: "I followed social networks, I followed TV news, I followed the speeches of government officials and other experts. I knew whether some news was disinformation or not after confirming it from many sources". Likewise, Participant 5 followed the statements of government officials: "I did not use any verification methods to select the correct information. However, government officials were constantly making statements about disinformation at that time. I was looking at their statements".

Participant 4, who used official sources such as governorate channels, stated the following: "I compared the information we received with the information shared on the governorate website or the governorate's social media accounts". Participant 17 also followed official accounts.

Participant 8 said "I use methods such as examining the accuracy of the news from official statements, following eyewitness accounts on social media, and examining the metadata of digital content. The methods developed to eliminate disinformation are:
- community reporting,
- collaboration with fact-checking,
- content moderation,
- education initiatives".

Participant 26, shared the following information: "The first method was to turn to earthquake news published on the websites of official organizations that I regularly follow I followed steps such as comparing news, trying to think critically, and not spreading accurate information without verifying it, and trying to read the news by considering its advertising share".

Participant 28 exemplified official sources as follows: "After any earthquake, I tried to learn the magnitude of the earthquake not only from AFAD data but also from the KANDİLLİ Observatory data".

Participant 11 said "I check the accuracy of the news I follow from many different media outlets. Then, I verify the news by checking the official institutions and the sources given in the news content".

Participant 9, who drew attention to the importance of television and government sources, said "I could not trust the information published on Facebook and Instagram because the source was not clear. Government sources intervened in some sensational news and tried to inform correctly. Television was used as an important media tool".

Participant 21 also said "I prioritized the content of news organizations that are known to be reliable. I also considered expert opinions and official statements. The verification methods used to eliminate disinformation included questioning the source of the news, checking the accuracy of the images with visual searches, and checking the information from more than one source".

Participants generally tended to use official sources. Participants who used their cognitive abilities thought that official sources had an important place in the process of sifting incoming messages. Critical thinking is highlighted as the most important feature in many media literacy theories (e.g., Potter, 2016; Buckingham, 2003; Livingstone et al., 2005; Hobbs, 2010). At the same time, the use of official sources provides critical evaluation, ethical responsibility and reliable information dissemination according to Mihailidis (2014).

Increasing Accuracy through Personal Efforts and Teyit.org

Participant 6 did not share news that he did not believe, stated that he paid attention to the reliability of the news source on the sites he followed and added: "I prevented disinformation news from spreading through me during the earthquake. If everyone did not share the first news they saw as true, perhaps disinformation news could be prevented in this way, even if only a little".

Participant 7, who pointed out the sensitivity of the site administrators, thought that this situation would facilitate the solution of the problem: "Especially in recent times, it has become very difficult to find accurate information. Trolls, influencers have aimed to be the center of attention with fake news. To choose accurate information, I follow pages that have proven themselves and have reached many followers. The subject that I interact with the most on social media is news. To obtain the most accurate and diverse news, I follow different news pages. Page administrators do not do much to eliminate disinformation. Again, the user himself does this job. The reader reads the news and if there is false information there, he voices it in the comments, complaint boxes. Yes, we have reader groups who react to disinformation, but this is not enough. Site owners can remain silent in this situation that produces false information and misleads people. Some applications try to break the negative effect of disinformation by telling users "If you see false information here, let us know"".

Participant 19, who tries to verify the accuracy of information from many places, said "I even sometimes benefitted from foreign news sources. Old videos, photos or interview montages can be presented again as if they have been renewed. I think it is best to scan more than one source".

Participant 17, who stated that he used several verification methods to select the correct information, said "First, I checked the source of the news; I prioritized information from reliable and well-known news agencies. I compared multiple sources to verify whether a news item was true or not and observed the consistency of information".

Participant 12 activated the verification mechanism by matching many different sources. Participant 13 pointed out that sites such as Teyit.org should be used: "Attention should be paid to the style of the written text and the way the information is conveyed, and no sharing should be made about the news until the correct information is obtained". Participant 14 stated that he only trusts TV news. Participant 15, who stated that he trusts content shared by more than one person, stated that he also uses Teyit.org and added: "RTÜK, the mandatory broadcasting principles declarations and regulations that media organizations must comply with are effective in eliminating false reporting, called disinformation. Of course, sites such as 'eyit.org' and media publications will have a great impact in preventing disinformation".

Participant 18 said "When I saw a news or visual, I tried to research its basis. I questioned the source of the information and why it was reported. I followed many channels to verify and confirm these contents. Then, I followed the developments on social media and tried to confirm these developments from traditional media. I followed the statements made by institutions such as the presidency, ministries, governorships, and municipalities on social media. I watched the statements of experts and scientists".

Participant 20, who stated that it was quite difficult to verify news content at that time, but teyit.org provided access to verified news, said "When I saw that it was insufficient, I would compare the news on different social media platforms and follow a few TV channels that defined themselves as opposition in traditional media (tele1, fox tv, halk tv...)".

Similarly, Participant 22 said "As a verification method, my friends and I would all look at different media. If they all gave the same information, we would accept it as true; if different information was given, we would look at it as disinformation. I can say that the most important thing to prevent disinformation is not to use definitive language. For example, instead of the word 'it happened', it can be written as 'it was claimed to happen' or it may not be published unless its accuracy is confirmed. I think that disinformation can be distinguished in the simplest way. I applied the same method during the earthquake. "If a friend of mine noticed something

wrong, he would tell us, and we would all be skeptical of other information in that media. We would read about the same thing in other media," he said.

Participant 23 emphasized the contradictions: "As a person who lives in the earthquake area and experienced every moment of the earthquake, our biggest fear was the ongoing aftershocks and how long these earthquakes would last. Since we experienced the earthquake at 04:17 at night, during our sleep, I think we were more affected psychologically. I would like to explain this with an example from myself. It has been exactly 18 months since the earthquake. I still experience feelings such as shaking during my sleep. The first question that comes to my mind is, was there an earthquake? I search for the answer to this question on websites such as Last-Minute News, AFAD, Kandilli Observatory, Latest Earthquakes, even at night. I can sometimes see differences between these pages. For example, while one site shows the earthquake level as 4.0, another site may show it as 4.3".

Participant 24 also stated that it is very difficult to access accurate information and that he uses many different news sources to understand conflicting information. Participant 27 also said: "I tried to eliminate disinformation by comparing different news sources and following news channels that I trusted". Similarly, Participant 29 said "Following the news from accurate and reliable pages was my first step. I acted with the awareness that not every earthquake news was true. I tried to confirm the news I saw from more than one source".

Participant 30 shared his experiences regarding this process as follows: "Choosing the correct information was difficult. The sources that were effective here. The news pages that I had been following for years were reliable. They could not prevent disinformation in the early days. After a major disaster, everywhere was in a very chaotic state. The death toll and the number of injuries could differ across TV channels. There was a lot of fake news and false reports on social media platforms. It was stated that there would be some sanctions to deter those who spread false news".

Participant 25 said "The false information continued to spread days and even weeks after the earthquake. Because of this false information, we thought we would be exposed to major aftershocks, and because of the false guidance, our relatives who were waiting under the rubble lost their lives under the rubble".

The use of fact-checking sites has become widespread around the world and has been emphasized in media literacy theories. For example, Kellner and Share (2019) emphasized that FactCheck.org tools such as Snopes and FactCheck.org should be used in critical media literacy theories. Buckingham (2003) also emphasized critical thinking and active participation and drew attention to the importance of active participation in verification.

Trust in Traditional Media/National and International News Agencies

Participant 10, who mostly trusts traditional media, national and international news agencies, said "Since I worked as a reporter for many years, social media was not a definitive source for me. For this reason, I was checking news agencies in Turkey and foreign agencies to verify the information, comparing them all. But there were incredible differences between their news and social media news. I thought traditional media was more consistent and accurate. Sometimes, they shared the right information even if it was late. I knew that they were correct information instead of fast and wrong information".

Similarly, Participant 10 said "I followed national and reliable social media accounts and TV channels to choose the right information. I prioritized the news coming from these channels. The first thing to do to eliminate disinformation is to follow national and international media accounts with a large audience and prioritize their news".

In summary, it is revealed that the participants follow official sources, government officials, personal efforts, and fact-checking organizations, traditional, national and international agencies to get rid of the disinformation they constantly criticize. The observation that personal efforts have gained importance is important in the context of revealing the magnitude of disinformation.

3.1.3 The Most Used Sources Used

Participants were asked: "Which were the media sources you used the most during the week of the earthquake? Which media tools did you use more functionally?" The themes are presented below under headings.

X, Telegram and WhatsApp

Participant 2 said "During the week of the earthquake, I followed the agenda mostly from the X application. Because social media platforms such as Instagram, TikTok, and Facebook etc. were full of posts that demoralized people and were made with the desire to gain emotional likes rather than enlightenment. I also followed the statements of official institutions and the reports of reliable news agencies. The posts of local media organizations and independent journalists were also important sources of information for me".

Similarly, Participant 3 said "I used social media platforms such as X, Telegram and WhatsApp. I used the social media account Rasathane to learn the magnitude of the earthquake and the intensity of the aftershocks. I followed private institutions that I found reliable for support and the managers of these institutions".

Participant 5 said "X was the source I used the most. I used alternative media tools functionally". Similarly, Participant 19 said "I used X the most because with the instant flow and constant updates, it was possible to communicate better than other media platforms".

Similarly, Participant 20 stated "WhatsApp reporting lines, Telegram groups and X created by artists such as Haluk Levent (Ahbap) were among the sources I trusted the most in this regard".

Participant 24, who stated that the application he used the most during the earthquake process was X, said "It was easy for me to follow up here and it helped us to make the voices of our circle that we could not reach heard. I was able to be informed from all sides quickly and up to date".

Participant 27, who stated that he used the X application the most during this process, said, "Because the process of news spreading and reaching the authorities is fastest in the X application". Although Participant 28 stated that he followed TV channels, he emphasized that he shared his posts on the X.

Participant 30 also said "Frankly, I used X the most". At that time, Oğuzhan Uğur and Haluk Levent were people who spread reliable information and had a big share in helping each other. I went through this process by following them as well" he said.

Official Sources and Social Media

Participant 8 emphasized both official sources and pointed to social media and television: "The sources you used the most during the week of the earthquake are as follows – AFAD and IHH (it was one of the most reliable sources during the earthquake period), Governorships and Municipalities, Ministry of Health, Adadolu Agency (the most reliable agency among the news channels), Kızılay, etc. The most functional media tools I used are as follows – social media (such as Facebook, Instagram, X), television, AFAD and IHH official websites".

Similarly, Participant 4 said "The Osmaniye Governorship of the Republic of Turkey was publishing all the information on its website, including its X, Facebook, and Instagram pages".

Participant 12, who stated that he followed the news outlets that he thought were well-established and impartial, said "At the same time, I followed the social media accounts of the institutions and organizations that were managing the crisis on social media and were actively involved in the developing events via my phone because it was practical. Then, I tried to confirm the information I could not verify by going to the environment/area that was the source of it and exchanging views with people. I think that the issue of verification is closely related to the development of media literacy, despite the increasing disinformation in times of crisis. We feel its absence more intensely in times of crisis such as earthquakes, floods, wars, and epidemics".

Participant 13 also said "The sources I used during the earthquake were the Ministry of Health, AFAD, and Kandilli Observatory. I used the sources I mentioned and X more frequently during this process".

Participant 15 said "During the week of the earthquake (of course before the internet bandwidth was throttled), I used social media tools such as X, Instagram, Facebook, news sites on the internet, and online broadcasts of television journalism. I also listened to decisions of the President, ministers, Kizilay, etc. organizations".

Participant 17, who stated that X was the source he used the most during the week of the earthquake, said "Because it provided fast information flow. Especially the posts of local people and journalists helped me a lot. I did not pay much attention to other media tools because most of the time it was important to access information as quickly as possible and X met this need. I also followed official accounts. During this process, thanks to social media, it was also possible to communicate with other earthquake victims and receive and give support. The speed and ease of access on X provided a great advantage in the chaotic environment".

Participant 21, who stated that he used the statements of official institutions, the evaluations of disaster experts and reliable news organizations the most during the week of the earthquake, continued as follows: "I especially followed AFAD and Kandilli Observatory. Apart from this, scientists were an important source for me. I found television news channels, official social media accounts and reliable news sites to be more functional. Platforms that provide instant information flow such as X were also useful, but I used them against disinformation".

Participant 26 mostly followed news channels that broadcast together in the first week after the earthquake. However, he stated that he could not access live broadcasts in the first two days after the earthquake and tried to progress by following institutions such as AFAD, Kandili Observatory, etc. that made official broadcasts via X, as well as experts in the field. He actively used the applications he could communicate with to reach people in need of help.

Participant 9 said "We were following TRT broadcasts. A lot of the news I saw on social media had a great effect on my psychology. That's why I tried to follow TRT news. About a month after the earthquake, a television was brought to the room where we were staying. I found the earthquake news I received from television to be more reliable than social media, so I used television more functionally".

Participants frequently used social media, especially Twitter, although they tried to confirm the information they doubted from official sources. This situation reveals how important work has been done, especially by theorists developing digital media literacy theory (Mihailidis, 2014; Jenkins, 2006; Hobbs, 2010). While Mihailidis (2014) emphasizes critical thinking, ethical awareness and active participation, Jenkins (2006) draws attention to collaboration and collective intelligence in the digital field. Hobbs emphasized competencies in access, analysis, creation, reflection and act.

TV Channels and Agencies

Participant 10 said "I was using Anadolu Agency, TRT NEWS, TRT WORLD, AFP, BBC, NTV, CNN INTERNATIONAL and CNN TÜRK. I was following their own websites and social media accounts".

Participant 11 stated that he turned to television due to blockages and slowdowns as follows: "I mostly followed the aid organizations in the region via social media, but because of blockages and slowdowns, I had to follow the news via news channels via television". Similarly, Participant 14 said "I couldn't use the phone because the internet didn't work, so I had the chance to watch television".

Participant 16 emphasized television: "I generally benefited from the news on the websites of national channels with large audiences on social media and on TV channels. I gave priority to any rumors about the earthquake. I followed social media accounts and TV channels via my phone".

Participant 18 said "We mostly benefited from news sites and social media posts of media organizations on our mobile phones. Because our mobile phones were the most useful, we used them by charging them in a short time. I also tried to follow the agenda on TV".

Participant 28 stated that "99% of the time I benefitted from TV news and special earthquake programs. But since I did not have any authority or duty, I did not use traditional media".

Generally, "Social Media"

Participant 7 said "We stayed in the collection areas during the first week. It was impossible to reach television and computers. We could only access our phones. We followed the news on social media. Of course, we were also exposed to disinformation. However, the biggest problem we experienced was the internet infrastructure. We used our phones most actively in the first week, but since the internet was very bad, we could not use our phones much. Again, we received useful information mostly from social media. Since there were administrators who did not state the number of deaths and injuries correctly, we followed news that had experienced those events and was close to definitive information as the most accurate source". Participant 1 said, "I mostly followed breaking news, TV news. I followed social media platforms such as X and Facebook".

Participant 29, who stated that he followed the earthquake on social media during the first days, said "We downloaded applications that dropped earthquake notifications on our phones. These applications were not a very healthy decision. The fact that there were too many aftershocks caused additional panic. Later, since I could not access the internet, I was able to follow the news from common news channels on television".

Instagram

Participant 22, who stated that she looked at the content on Instagram most often during the week, said "It was a medium that I could access more quickly. For example, I was following media institutions such as Newstimesturkey, BBC News Turkish, TRT Haber and GZT. I used most functionally the websites".

Similarly, Participant 23 said "I got the most information were citizen journalism Instagram pages, AFAD, AHBAB (Haluk Levent) Kandilli observatory pages. I followed the accounts I listed above for our friend who was under the rubble for 11 days during the earthquake and could not be saved. I made social media interactions such as Topic Tags, Hashtag #, Add me too".

News Sites and Reporters

Participant 6 stated that there was a problem with internet access and said "Most of the channels were in the earthquake area to broadcast live anyway. I didn't need to look at additional news sources. When I had internet access, I was constantly looking at the sites that I follow the news, but we were so tired that we often couldn't find the opportunity to review the news. We mostly got information from reporters and journalists who came to the scene".

In summary, it has been revealed that social media is extremely effective but also often causes disinformation. X is followed a lot because it mostly provides instant news. WhatsApp, Telegram, Instagram, Facebook are frequently mentioned social media tools. Participants who follow official channels, national and international news agencies in cases where they cannot trust the information, they get from social media stated that they also follow television, news sites and various reporters who come to the earthquake area from time to time. While the names of organizations such as AFAD, Kandilli Rastahanesi, and TRT are frequently mentioned among official channels, the Ahbap Association, where artist Haluk Levent works voluntarily, is also frequently mentioned. According to Ofcom (2022), in crisis situations such as disasters, people mostly turn to websites, TV channels and follow up-to-date information. Social media is also predominantly used, but it poses risks due to the rapid dissemination of unverified information. The findings of the study support the Ofcom report.

3.2 Visual and Quantitative Analysis

In this section, the data obtained from the interviewees were visualized and supported with numerical data. They were schematized using the Word Art program. While creating the diagram, prepositions were not included in the analysis. The result is as follows:

FIGURE 1: *Word cloud from the interviews*
Source: own processing, 2024

When the word cloud is analyzed, it is clearly seen that the word "media" is dominant, followed by "news" and "inform". Therefore, it can be said that getting information from the media through news is the theme that the interviewees emphasized the most. Consider that the words "follow", "earthquake", "social", "trust" are other prominent words. The emphasis on trust in the media and social media in the earthquake is also reflected in the word cloud. The figure of which words are expressed numerically through the Word Art program is reflected as follows:
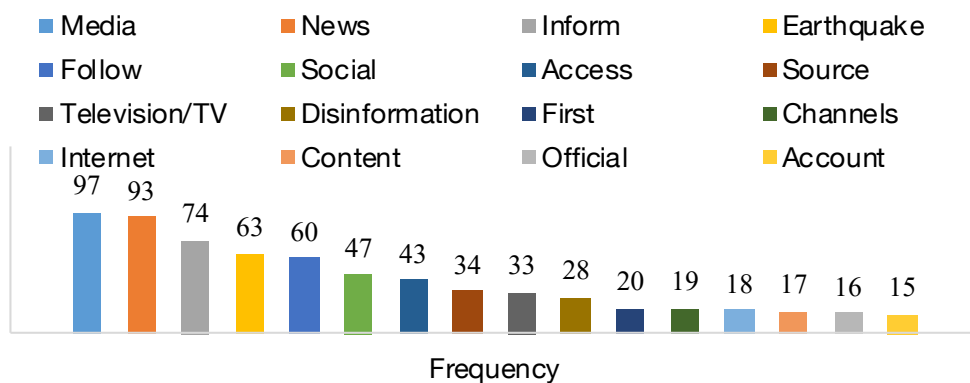

FIGURE 2: *Most expressed words*
Source: own processing, 2024

According to Figure 2, it can be said that the framework of the words has connotations especially related to social media, television, disinformation and official content. Words with less than 15 mentions are not included.

The prominent words reveal the importance of critical thinking in media literacy. Because when the word "inform" is in the foreground, there is a desire to be informed. The prominence of words related to the internet draws attention to the importance of developing theories in the field of digital media literacy. Despite intensive digitalization, the prominence of television indicates its continued high influence, and the prominence of the word "official" indicates the existence of ethical searches. The fact that the word "disinformation" was mentioned 28 times clearly demonstrates the necessity of digital media literacy, especially in this field where digital content is emphasized.

4 Discussion and Conclusion

Media literacy gains importance especially in times of crisis, with its dimensions such as understanding and evaluating the news correctly, disseminating it ethically, and removing disinformation. Many media literacy theories agree on the importance of critical thinking (Hobbs, 2010; Potter, 2016; Livingstone et al., 2005; Mihailidis, 2014; etc.).

The Kahramanmaraş earthquakes affected the whole of Turkey causing panic for earthquake victims and other citizens trying to reach them, who mainly used cell phones for information exchange, mainly used social media channels to get news. However, some problems such as information pollution, sharing of panic-inducing news, misleading information and distortion of information due to political polarization were reflected, especially on social media tools. Noting that social media, especially X, as well as WhatsApp, Telegram, Instagram and Facebook applications are frequently used, the participants mostly followed national and international news agencies and reliable news sites, tried to verify the content by their own efforts and shared this information with each other. While verification methods were mostly cited as following official sources and government officials' statements, teyit.org was the most frequently mentioned verification platform, as proposed by Kellner and Share (2019). While institutions such as AFAD and Kandilli Observatory are reliable official sources, AHBAP, which continues its activities under the leadership of artist Haluk Levent, has come to the forefront in terms of reliability as a voluntary association. Therefore, in the period in question, media literacy competencies came to the forefront in terms of both cooperation and participation, as Jenkins (2006) states.

Most of the participants had difficulties in communicating due to problems in infrastructure and internet access, especially on the day of the earthquake. Some participants pointed out that the state also imposed access barriers from time to time. Participants who stated that there were disruptions in access in general also emphasized information pollution and disinformation. They attributed the cause of information pollution to many factors: for example, political polarization, misleading people through commercial clickjournalism, false posts to criticize the government, or those who claim that the government is giving false information about the death toll, and many other reasons which may have caused information pollution. This situation reminded us of the importance of the ability to think free from political bias, which was emphasized by Livingstone et al. (2005). At the same time, "cognitive skills" emphasized by Potters (2016) and "critical thinking" pointed out by Mihailidis (2014) gained importance at this point, and many students struggled to access accurate information by using different sources.

Participants stated that they were frequently exposed to disinformation, and that they had unhappy experiences due to the panic they experienced from time to time, that they were misled about the assistance they received and that they themselves were victimized. Receiving different information from different sources about the time of the earthquake and experiencing constant panic caused some participants to experience psychological problems. This situation of students

who were able to manage their emotions and share information revealed the importance of the concept of "emotional skills" pointed out by Potter (2016). Managing emotions is important for healthy information exchange. Some of the participants stated that they were sensitive about not sharing false news. This reveals that they behave in accordance with Potter's (2016) concept of "ethical skills".

In summary, students who experienced the Kahramanmaraş earthquake faced problems such as disinformation, conscious internet restrictions, access barriers, emotional stress and panic, and struggled to cope with them. They showed active participation especially in "cognitive skills" and "critical thinking", which are mentioned in almost all theories. They were willing to participate and cooperate, they tried to verify information from many sources, but they also had negative experiences. In order to ensure more qualified news broadcasting in crisis situations such as earthquakes, states should make plans within their own organizations, provide trainings to their correspondents in this direction, and media literacy should be taught as a course not only in universities but also at primary school level.

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Katarína Fichnová

Comprehension of Print and Digital Media Texts – Anticipation of Own Comprehension Performance

ABSTRACT

The aim of this paper is to identify whether a significant connection exists between anticipated own performance in the comprehension of print and digital media texts among university students. Likewise, the aim of this paper is to identify the possible differences between anticipating one's own future performance (aspirations) depending on the form of media texts (print vs. digital). The objectives stated above were broken down into several research questions. To identify the variables, we used the Slovak version of a standardized psychodiagnostic text comprehension test (Blinkhorn, 1985/1993). To identify the aspirations (anticipation of one's own performance in the area of comprehension), we used a simple ten-point self-assessment scale. Altogether 183 respondents took part in our research. When analyzing the data, we used procedures from descriptive and inductive statistics with the help of Microsoft Excel and SPSS statistical software. In agreement with our previous findings, the results showed that there are no significant differences in the comprehension of texts depending on their form – be it classic print texts or their digital counterparts. However, the results showed that male and female respondents in the examined set expected better performance in digital texts and worse performance in printed texts. These results are discussed mainly in the context of media communication and implications for experts in the field of media, journalism and editing, but also for educational practice at universities and in media education.

KEY WORDS

Aspirations. Comprehension. Digital. Media. Performance Anticipation. Print. Text. Young Adulthood.

1 Introduction and Theoretical Background

This paper is a response to the current stimuli in the media and in social practice – our aim is to identify whether a significant connection exists between anticipated own performance in comprehending media texts (print and digital) among university students. Likewise, our aim is to identify the possible differences between anticipating one's own future performance (aspirations) depending on the form of media texts (print vs. digital).

Due to the rapid development of digital technologies, and especially after the global Covid-19 pandemic, which accelerated the education of children and young adults through the use of digital technology (tablets, laptops, mobile phones), the research efforts to identify its impact on human behaviour in the area of emotions and cognition (Ogonowska, 2023) are gaining currency in professional circles. However, there is no consensus among experts on issues related to the comprehension of digital and print versions of texts. For example, it is well documented that the use of digital texts has an effect on improving fluency and reducing the number of errors when reading textbooks (e.g., Kaman & Ertem, 2018), the interactive features of digital texts have a positive effect on reading comprehension (Schwabe et al., 2022) and digital reading has also proven effective in improving reading comprehension skills (Al Khazaleh, 2021).

On the other hand, several authors (Alisaari et al., 2018; Fesel et al., 2018; Sage et al., 2019) have reported that the performance is comparable. Ben-Yehudah and Eshet-Alkalai (2021) investigated congruent and incongruent conditions of study and testing (the respondents first studied an expository text through one medium (print or digital) and then their comprehension was assessed either in the same (congruent) or another (incongruent) medium), but found no significant differences.

Some experts are of the opinion that each of the forms of media has its advantages and disadvantages. Park and Lee (2021) experimentally discovered that reading comprehension at the literal level improved the most in the group where the students used tablets. Conversely, improvements in inferential reading comprehension and grammatical knowledge were greater in those who read printed books and did not use tablets. The authors concluded that print media were better for in-depth reading and digital texts were more ideal for skimming and scanning. Some research studies identified several significant disadvantages of digital media compared to classic print media. For example, Altamura et al. (2023) found that casual digital reading does not pay off in terms of text comprehension – at least not as much as traditional reading of printed texts. Other research results (Salmerón et al., 2023) have revealed that the amount of daily use of digital devices was negatively related to the reading comprehension test scores among fourth graders. In their meta-analysis, Salmerón et al. (2024) confirmed certain negative effects of screens on the comprehension of texts compared to printed texts in schools, and they argue for the reading of printed texts in schools and to search for appropriate ways to gradually incorporate handheld digital devices for reading purposes. Likewise, the research conducted by Kazazoğlu (2020) confirmed that students who read texts in printed form achieved significantly higher scores in comprehension tests than those who only read texts digitally. Singer and Alexander (2017) also confirmed that students remembered key points associated with the main idea and other relevant information more effectively when working with printed texts. Similar results are reported by Jian (2022).

Despite the above, the data indicate that children and young people prefer digital to print media (Wąsiński et al., 2013; Singer & Alexander, 2017; Florit et al., 2023; Čábyová et al., 2023). However, these preferences are not in agreement with the forecasts – anticipation of one's own performance of text comprehension (Singer & Alexander, 2017). Bresó-Grancha et al. (2022) found that their respondents read printed texts more slowly.

In addition to printed and digital texts, some studies added audiobooks to the examination of comprehension of textual content. In this context, Singh and Alexander (2022) verified whether audiobooks tend to facilitate comprehension more than print books, especially in younger

students. On the contrary, the overall difference between reading and listening comprehension was not reliably different in the meta-analysis carried out by Clinton-Lisell (2022). However, in the case of reading at one's own pace (in contrast with the pace set by the examiner), reading proved to be more beneficial than listening. The reading method (silent vs. loud) can also have an effect on the text comprehension rate. The research conducted by Schimmel and Ness (2017) revealed that silent reading is more effective for narrative passages at the retelling rates, however, no difference was noted in the comprehension rates (different texts – expository, narrative or expository). Activities such as highlighting the text while reading (Mason et al., 2024) have an impact on the perception and comprehension of text. Goodwin et al. (2020) reported that students used highlighting and annotations more when reading text printed on paper compared to digital text. Reading on paper also slightly supported reading comprehension in longer text segments.

Jian (2022) provides stimulating information about the factors influencing the comprehension of texts in relation to the reception and tracking of eye movements while reading. The data indicate that the respondents spent approximately the same amount of time processing print and digital texts. However, the time was not divided equally between the first pass and the reread phase. The group that read the texts in digital form spent more time reading in the first reading phase and only rarely read the text again**.** Unlike the printed text group, which first perused the entire text and then re-read its important parts, longer fixations in the re-reading phase and a higher number of re-readings were noted. This means that reading the printed version employs different cognitive strategies and exhibits a more selective and deliberate reading behaviour. Brüggemann et al. (2023) identified differences in the cognitive load under three testing conditions (classic, with paper and pencil, test materials shown on screen and an adaptive computer test) and noted a higher rate of increase in the cognitive load when taking the adaptive computer test. Research (Schurer et al., 2020) has also shown that working memory capacity is one of the key factors determining text comprehension rate. The results also indicated that prior knowledge is a benefit in the subsequent comprehension of text despite the fact that it has no effect on the reader's attention.

The above research (with some exceptions) studies were devoted to the issue of text comprehension, especially so in the field of education and in the educational process. The tested text samples, whether digital or printed (and sometimes audiovisual), usually included teaching materials, educational materials, exercise books, fiction and manuals. Comprehension of media texts (articles from newspapers or magazines) is not significantly represented in current research despite the fact that it has significant social implications and impacts. The aim of our research, which is part of the outputs from the research project focused on text comprehension, is to contribute to fostering the expert dialog and enrich it with media-related aspects.

2 Methodology

This study is part of broader research, and this article presents three main research problems related to the comprehension of media texts aimed at the cohort of young university students.

2.1 Research Questions

RQ1: Do university students exhibit significant differences in the anticipation (or expectation) of their own future performance in media text comprehension when reading digital and print texts?
RQ2: Are there significant differences in the comprehension of digital and print media texts in the studied group of university students?

RQ3: Is there is a significant connection between anticipated or expected own performance and actual performance in the:

    RQ3.1 digital;

    RQ3.2 print text comprehension test?

To carry out our research with the above research problems, we designed a descriptive, mapping, correlational and comparative research plan using a standardized method, which was adapted to the digital environment, as well as a simple self-assessment scale.

2.2 Population and Sample

With regard to the objectives and research problems, our population set involves university students. According to the available statistics at the time of research planning (Ballek et al., 2021) a total of 130,739 university students studied in Slovakia. Based on the above, the required sample size is N_{PVP} = 383 (Conf. L 95%, Conf. I 0.05). The research was conceived more broadly – in total we tested the required number of respondents, but after excluding those who did not take part in both measurements (digital and print texts), or whose administered protocols were incomplete, only 183 respondents (121 women and 62 men) were used in the data analysis with an average age of 21.79 years (sd=2.82 years). The students studied several different programs (history, journalism, marketing communication, ethics, languages, philosophy, etc.) mainly at art faculties.

2.3 Method

As indicated above, we used several methods in our study. Within the methods focused on data collection and the variable defined as "Text Comprehension Rate", we administered a standardized psychodiagnostic test – namely the verbal subtest of the Managerial Assumptions Test (Blinkhorn, 1985/1993). The Slovak version of the printed test is distributed by Psychodiagnostika. We have prepared its digital version for the purposes of the VEGA project and more broadly conceived research both in Moodle and QuestionPro. The test contained 15 media texts (ranging from personal and political to economic) and a total of 60 test items. The administration time limit was 30 minutes. Each of the 15 texts contained approximately 100 words (95.77 in Version A and 101.13 in Version B) and the average character count in Slovak was 695 (Version A) and 692 (Version B). Both parallel versions were equivalent. According to the test authors, the success rate in the tests is not dependent on any specific knowledge or technical skills. The test is focused on verbal comprehension, but it also reflects the ability to think critically (it is partly based on the Watson-Glaser Critical Thinking Assessment, conf. Wojciechowski et al., 2013; Ogonowska, 2023). At the same time, it determines whether the respondents can combine skills with practical judgment.

Before the practice run and testing itself, the respondents filled out a short questionnaire with the necessary demographic data. After the test, the respondents had the opportunity to add their own comments – in the open answer field, they listed the factors that they subjectively perceived as difficult or, conversely, easy when taking the test. This research is conceived more broadly, and this specific information is not part of the present analysis, which for example also applies to the "Text Difficulty" variable, which was measured by means of the Björnsson Index (Björnsson, 1968; Björnsson, 1983), (for more details, see, e.g., Sokol & Sokolová, 2022; Fichnová et al., 2024).

The results were processed in an Excel spreadsheet using SPSS.

3 Results

The basic descriptive data are presented in Table 1 and Table 2. A simple comparison of the averages shows that the respondents expected better performance in the comprehension of digital texts over print texts (classical printed materials) prior to the actual test, which was related to the comprehension of various media texts. However, the size of standard deviation indicates that there was a higher inter-individual variability, especially in the aspirations associated with the comprehension of print media texts in our sample. On the contrary, the monitored sample showed a higher agreement in in the estimations of the respondents' own performance in the field of digital texts. The differences in expectations of their own future performance in the comprehension of digital and print texts were also confirmed by a statistical comparison of the data presented in the upper part of Table 3. The t-test significance value is .002, which means highly significant differences in the monitored variables. Therefore, our Research Question 1 (RQ1) can be answered positively: there are significant differences in the anticipation (or expectations) of one's own future performance in the comprehension of digital and print media texts in the studied group of university students in favour of better performance in digital texts.

	Mean	Std. Deviation	Std. Error Mean
asp_print	5.0000	2.02457	.14966
asp_digit	5.4672	1.61773	.11959

TABLE 1: *Descriptive statistical data of the variable "Anticipation of own future performance in the comprehension of print (asp_print) and digital (asp_digit) media texts" in the sample of respondents*
Source: own processing, 2024

The data presented in Table 2 could also confirm the stated findings in the actual performance (the arithmetic averages of the respondents' actual performance in the comprehension of media texts indicate this very finding – the score for the comprehension of digital texts is slightly higher than the score for the comprehension of print texts (26.74 vs. 25.88), however, the statistical confrontation did not confirm these considerations. The differences are not statistically significant (which is illustrated in the lower part of Table 3). These findings allow us to answer our Research Question 2 (RQ2): the comprehension of media texts is not affected by their form, whether digital or print, in the examined students and the text comprehension rate of both text types is comparable (despite the subjective expectations of better performance in the comprehension of digital texts).

	Mean	Std. Deviation	Std. Error Mean
perf_print	25.8852	7.28260	.53835
perf_digit	26.7377	6.52106	.48205

TABLE 2: *Descriptive statistical data of the variable "Text comprehension rate of digital (perf_digit) and print (perf_print) media texts" in the sample of respondents*
Source: own processing, 2024

	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	Sig (2-tailed)
				Lower	Upper		
asp_print - asp_digit	-.46721	2.05395	.15183	-.76679	-.16764	-3.077	.002
perf_print - perf_digit	-.85246	7.56111	.55893	-1.95528	.25036	-1.525	.129

TABLE 3: *Statistical confrontation of the monitored variables through the t-test*
Source: own processing, 2024

		asp_digit	perf_digit
asp_digit	Pearson Correlation	1	.098
	Sig. (2-tailed)		.185
	N	183	183

		asp_prin	perf_print
asp_print	Pearson Correlation	1	.156*
	Sig. (2-tailed)		.035
	N	183	183

*Correlation is significant at the 0.05 level (2-tailed)

TABLE 4: *Results of the correlation analysis of the monitored variables*
Source: own processing, 2024

These findings are indirectly and partially confirmed by the data analysis carried out in connection with Research Question 3 (RQ3), which is presented in Table 4. There is no significant relationship between expected performance – text comprehension rate – and actual comprehension (the value of the corresponding observed correlation coefficient is low) in the case of digital texts (RQ3.1).

However, we found that the low expected comprehension performance in the case of print texts is correlated with the real (and relatively) lower text comprehension rate of these texts (r (181) = .156, $p < .05$). The students' concerns about the print version may thus be derivative of the so-called self-fulfilling prophecy phenomenon (conf. King & Mertens, 2023), or equivalent to a variation of the nocebo effect (Colloca, 2024). However, it should be reiterated in this context that the monitored sample exhibited a higher inter-individual variability in performance, represented by a higher standard deviation (which is also reflected in the max. and min. score of 9 and 50). However, this result also indicates that the respondents were relatively realistic in predicting their own performance. And conversely, the estimation did not correspond to the actual performance in digital texts. Another possible explanation is that the above is related to the level of experience in reading print or digital texts.

4 Research Limitations

The present research results should be interpreted with some degree of caution especially given the relatively small research sample, which was formed after filtering out all incomplete submissions and submissions that did not contain both versions of the tests (digital and print). This also applies to the composition of the sample and the prevalence of female respondents. Despite this discrepancy, the results provide an insight into certain tendencies and trends in the monitored target group.

The intervening variables should also include factors such as text coherence (see, Schurer et al., 2020), topics that may be of special interest for certain respondents (this factor will be investigated more closely in another study we are preparing), motivation to take the test (not all respondents took the test with the same degree of motivation interest), own activity (Vrabec & Bôtošová, 2020; Čábyová & Hudáková, 2022), which can, for example, include the highlighting of essential parts of text (Mason et al., 2024), perception of the medium and its reputation (Spálová & Szabo, 2017), type of device on which the respondents took the digital version of the test (including screen size, as reported by Haverkamp et al., 2023), technological skills of the respondents (Pitoňáková, 2020), different time periods for taking the tests (the print version was always administered in the morning, however, the specific start time of the test differed between the individual groups of students). The testing diversified when the digital version was administered because some respondents took it individually on their own devices outside the computer room, which could also factor in the final evaluation. Not all respondents used the entire time limit available. After the tests, the respondents had the opportunity to reflect on some of the factors that they perceived as either having a subjectively positive or negative impact on their performance. However, these data were of a relatively extensive nature, we have set

them aside for the solution of another specific research question, and their scope exceeded the possibilities of the present study. Therefore, we will deal with them in more detail elsewhere. Although the above limitations should be taken into account, the study provides an insight into the area under review and connects text comprehension with the media with a focus on university students as well as their own metacognition, which mainly includes comprehension (and the difference between digital and print texts).

5 Discussion

The present study shows that expectations, including those that young university students build on the basis through their daily use of digital technologies and the ever-increasing preference and prioritization of digital texts (be they media, educational, or even private texts in person-to-person communication), do not reflect their real performance in text comprehension. These results are consistent with the data identified by Florit et al. (2023) in the lower age cohorts – specifically young children – where the effect of the medium on text comprehension was independent of the children's medium preference.

Our finding that there is no significant relationship between expected performance in text comprehension and actual text comprehension in the case of digital texts, is in slight contradiction with the findings of Singer Trakhman et al. (2023). These researchers have confirmed that text comprehension was overestimated more often when the students read digital multimodal texts.

As confirmed by our analyses, the comprehension performance in print and digital media texts is comparable, which corresponds to the data presented by other authors who focused on educational texts (Alisaari et al., 2018; Fesel et al., 2018; Sage et al., 2019). Similar results were also confirmed in our previous work (Fichnová et al., 2024). These findings are important not only for the understanding of processes in media communication and its impact on the target groups of young people who continue their educational process and prepare for the professions requiring higher education even at a young adult age, but also in the field of media education and journalism (Kačinová & Vrabec, 2022). Our current research is also focused on the analysis of the relationship between the length and complexity of media texts and their impact on comprehension, since the comprehension factors cannot be reduced to the mere form of presentation (print vs. digital text) and must be viewed as a more complex phenomenon. As stated above, researchers have not yet come to a clear agreement when comparing the comprehension performance of digital and print versions of texts. In contrast to our results, the below group of authors identified higher text comprehension rates and other significantly more positive effects when reading digital and not printed texts (Kaman & Ertem, 2018; Al Khazaleh, 2021; Schwabe et al., 2022) but another group of authors highlight the positives of print texts and their impact on comprehension compared to digital texts (Singer & Alexander, 2017; Goodwin et al., 2020; Kazazoğlu, 2020; Jian, 2022; Salmerón et al., 2024). These discrepancies are most probably caused by several factors, such as the researchers' use of different research strategies and methods to measure text comprehension (educational tests, psychodiagnostic tests, scales, open-ended questions...), different time allowances for reading, but also the inclusion of tasks in which the respondents were to demonstrate text comprehension, and, last but not least, respondents' age (ranging from small children, through pubescents and adolescents to adults). Even the text itself is far from negligible – as stated above, the vast majority of cited works concentrated on educational texts, educational materials and textbooks. Similarly, the texts were most likely of different lengths and difficulty and their language versions and textual specificities also must have played a significant role.

6 Conclusion

The present study builds on our previous analyses (Fichnová et al., 2024) and confirms that:

- young university students under our language conditions show no significant differences in the comprehension of print and digital media texts (articles from periodicals, magazines and websites);
- on the contrary, the subjective perception and expectation of one's own comprehension of media texts in this age cohort and specific group (higher education) significantly favours digital over printed texts;
- in the case of digital versions of media texts, no connection was found between the expected comprehension performance of these texts and the actual text comprehension rate among university students;
- in contrast, the expected average to lower-than-average performance in the comprehension of print versions of texts corresponds to the lower text comprehension rate of print media texts identified in the monitored research sample.

The presented analyses do not reflect other contextual factors that may be related to the text comprehension rate of media texts, such as motivational factors, preferred topics (it is a reasonable assumption that texts that contain topics that mean something to the test subject will be perceived with a higher degree of attention and interest, and therefore will be easier to understand), reader's cognitive style and other variables. Some of the listed variables have been the subject of our analyses and published in other academic studies.

Our research indicates that the digital and print versions of media texts can be perceived as equivalent in the investigated target group, and – as suggested by other authors – they can even be classed as complementary. The popularity of and/or preference for digital over printed texts will most probably continue to rise, which should be reflected both in the educational process and in journalistic, media, publishing, librarial, marketing and communication practice.

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Association of Pornography Consumption with Health and Risky Sexual Behaviors of Youngsters in Pakistan: A Quantitative Approach

ABSTRACT

The present study aimed to examine the association of pornography consumption with the health and risky sexual behaviors of youngsters. Two hundred and twenty-four participants (166 males, 58 females) from the public and private sector educational institutions of Multan, Pakistan, responded to the survey. The participants were selected through snowball sampling as it was an uphill task to identify the participants and persuade them to fill out the questionnaire. The findings indicated a strong correlation between frequent consumption of pornography with health (psychological & physical) and risky sexual behaviors of viewers. Despite a conservative society, heavy consumption of pornography on a daily and weekly basis (72%) is associated with risky sexual behaviors, i.e., using medicines to increase sexual power (p=0.045), intercourse with commercial sex workers without protection (condoms) (p=0.033), forceful sex with a life partner (p=0.038), sexual imitation as watched in pornography (p=0.005), and excessive masturbation after every exposure (p=0.018). Psychologically, frequent pornography consumption was related to feelings of loneliness and depression, while physically with a higher heartbeat and sweating on the body. The association between pornography consumption by youngsters and their health and risky sexual behaviors has been well established. Further research is warranted to obtain more outcomes and reasons behind the consumption of pornography content to suggest valuable measures to policymakers.

KEY WORDS
Pakistan. Pornography. Psychological Health. Risky. Sexual Behavior.

1 Introduction

The modern age is advanced due to technology and the Internet. Everybody can access anything on the global sphere of the Internet anytime. Now people (specifically youth) are searching for information or content that might not suit their age or that is taboo for a particular society (Lenhart et al., 2010; Mitchell, 2007). Online pornography is being consumed more frequently and early as a result of increased internet accessibility. Simultaneously, a greater incidence of erectile dysfunction is observed in youth. One reason for this increase is that there may be more people using pornography (Solano et al., 2018). The increasing number of young people who consume pornography has caused serious alarm in the scientific community. The negative consequences of teenagers having unrestricted access to online porn can include a skewed impression of their bodies, low self-esteem, and distorted self-image (Rojas-Estrada et al., 2024). Exposure to erotic and porn content has increased in the last years drastically around the globe, especially in youth; they have different reasons to consume the content (Paulus et al., 2024).

Pornography access is banned in Pakistan, but it is still accessed by many individuals, specifically youth, through illegal means, i.e., VPN and proxy servers (Rodríguez-Castro et al., 2021; Rothman et al., 2021). The harmful effects of pornography are growing faster among people of all ages because the Internet is more affluent with the pornography material, and 'Internet-enabled' gadgets in people's hands allow them to create, consume, and share pornography content. Furthermore, in a global context, individuals have free access to pornography websites and the fact they can be accessed privately and anonymously adds to their appeal (Massey et al., 2021; Flood, 2009; Lo & Wei, 2005).

The word pornography falls under a social taboo in Pakistan. People feel so awkward responding to its consumption because of a conservative and complex environment where male-to-female interaction is limited. From a religious perspective, Muslims have been advised in the *Quran* (the sacred book or holy book of Muslims) to avoid nudity and stay away from something shameful (Zafar & Anwer, 2024). In this context, the verse of the *Quran* is interpreted as "Surely God enjoins justice, kindness and the doing of good, to kith and kin; and He forbids all that is shameful, indecent, evil, rebellious and oppressive" (*Surah Al-Nahl - 1-128 - Quran. com*, n.d., v. 16:90). Allah (GOD) has prohibited all Muslims from nudity and used a term *Fuhsha* for keeping away from the evil (Amir 2019; Mujahid, n.d.).

Pakistan is an Islamic republic; here, the viewers of pornography are reluctant to share their experiences (feelings, pleasure, and sexual arousal) due to the closed environment of society. Moral values have been maintained considering religion, and no one can openly violate the religion's teachings. There is no concept of sex education from schools to universities. Parents feel ashamed to give children sexual information or knowledge at the family level. Thus, viewers of pornography pretend to be uninterested; however, they watch pornography in private (Zafar & Anwer, 2024).

Pornography content falls under the broad terms of the "obscene" definition and has been blocked by the Pakistan Telecommunications Authority Act. This act was established to regulate the telecom industry of Pakistan. The policy of this act was revised in 2015 in the National Assembly of Pakistan according to section 9.8.3, and the telecom authority was responsible for monitoring and blocking all content related to pornography as it contradicts Islamic beliefs and values. In 2016, the Prevention of Electronic Crimes Act (PECA) was introduced, and internet pornography was also included in illegal content. PTA also established an Internet portal for complaints of immoral content (Iftikhar, 2020). Although Pakistan is an Islamic state, access to pornography content is large in numbers. Even with legal and cultural limitations, there are still a lot of Pakistanis who participate in cybersex. For instance, 67.5% of urban youth frequently watched pornographic material (Bibi et al., 2022; Ehsan et al., 2019). Pakistan secured the top position in the search for porn content on the Internet in the last few years (Qureshi, 2023). The

first time such statistics appeared was in 2011 when Pakistan was first discussed as the leading country in consuming porn content (Khan, 2011). The Supreme Court of Pakistan passed an order in 2016 to block all websites with pornography content. The telecom regulatory authority, PTA, blocked 429,343 websites in collaboration with internet service providers (Baloch, 2016). In 2019, on the instructions of the parliament, PTA banned more than 90,000 websites due to indecent and blasphemous content (Ali, 2019). In the year 2022, the Federal Investigation Agency (FIA) launched cases against 7,000 complaints about indecent content. Not only the state is banning such content, but the people are also complaining about such content. On the other hand, Pakistan is still among the top pornography-consuming countries (DRM, 2022). Recently, in April 2024, PTA banned 1.07 million more websites over the charges of pornographic and blasphemous content (Dawn, 2024).

Exposure to pornography could affect the sexual attitude of youngsters, which further influences their sexual behavior (Dwulit & Rzymski, 2019). Furthermore, those who get access to the Internet at an early age get exposure to pornography at a very young age as compared to those who came to the world of the web at older age (Hassan et al., 2023; Kraus & Russell, 2008). These results are further endorsed by Brown and L'Engle's (2009) research, who found that with youngsters who are exposed to pornography at early age (10-14 years) there is increased likelihood of engaging in sexual intercourse earlier than is the case with their non-exposed peers. These research findings share a standard view that individuals exposed to pornography content engage in various sexual behaviors, a few of which could be risky and problematic. Adolescents exposed to pornography content were more inclined towards risky sexual behaviors such as alcohol and drug addiction during sex, anal sex (without condoms), and sex with multiple partners (Braun-Courville & Rojas, 2009). Adolescence is a time of developing sexuality, growing romantic relationships, and starting a sexual relationship. Adolescents may investigate pornographic material or other sexual resources to further explore their sexuality. Adolescent boys who were exposed to media regularly had a considerably higher chance of being exposed to pornography than those who were exposed to it infrequently or never. Prioritizing life skills training and comprehensive sexuality education is necessary (Srivastava et al., 2023). The majority of the teenagers are aware that most pornographic content is inflated and fake. Pornography is frequently used as a source of sexual information, particularly by minority groups, in addition to being watched for curiosity and sexual excitement. There is ample evidence of numerous impacts that hinder children's growth. This review's findings are frequently at odds with one another. Thus, additional replication research is required (Paulus et al., 2024).

Pakistani society is rigid due to its cultural and religious dynamics. Here, the concept of living relationships and multiple sex partners is prohibited because of the spiritual teachings of Islam. Sexual intercourse is allowed after getting married to a partner. However, the concept of marriage and sexual interaction is highly discouraged before the age of 18. As mentioned, no sex education is given to people during their academic careers. Individuals between the ages of 14 to 17 (before 18) who watch pornography content are more likely to engage in sexual intercourse with commercial sex workers because of penile stimulation and premature ejaculation (Young-Petersen et al., 2024). Ultimately, it enhances the chances of sexually transmitted diseases (STDs) among them due to their intercourse without a condom as they do not have sufficient sex education and awareness at this stage. Therefore, the following hypothesis will be tested in this study:

(H1): Exposure to pornography at an early teenage would predict a greater likelihood of sexual intercourse with commercial sex workers.

Sexual aggression refers to the sexual activity of engaging a person in sexual behavior without their consent through the use of force, drugs, alcohol, argument, and authority. Both males and females can be the victims of sexual aggression (Basile & Saltzman, 2002). Alexy, Burgess, and Prentky (2009) examined sexually reactive children and adolescents. They found that the

individuals with frequent exposure to pornography were more likely to engage in forced vaginal penetration, violent sexual acts, including oral penetrations, and sex with animals to express their sexual aggression than the non-exposed individuals. In a qualitative study, Häggström-Nordin, Hanson and Tydén (2005) interviewed eighteen participants (8 males, 10 females), aged 16 to 23, selected from a local youth center in Sweden. They found that respondents were influenced negatively by pornography consumption and discussed the double standard depiction of pornography: women having multiple sex partners were considered promiscuous, while men having multiple sex partners were depicted as reverend. The consumption of pornography is positively associated with the low socio-economic status of people (Brown et al., 2005) and lower parental education (Bikila et al., 2021). In Pakistan, people have multiple problems, i.e., unemployment, poverty, and poor health, that create frustration among them. Pornography consumption often stimulates their aggression. To release and satisfy their emotions of frustration, they tend to engage in forceful sexual intercourse with their partner. Many people take some medicines before engaging in sexual activity to avoid early sensation and ejaculation and increase sexual power. Given the above points, the following hypotheses will be tested:

> (H2): Greater consumption of pornography content would fantasize individuals towards sexual style imitation in real life.
> (H3): More frequent exposure to pornography content is related to greater forceful sexual intimacy.
> (H4): Greater exposure to pornography content would instigate individuals towards risky sexual behavior, especially medicine usage, to increase sexual power.

Pornography consumption has diverse effects on the human brain, and many researchers have advanced the concept that heavy exposure to pornography might be a risk for abnormal developmental trajectories. For example, few perspectives regarding pornography consumption's effect on adolescents' psychological thinking have advanced from different research works in developmental psychology (Casey et al., 2008). It can be said that pornography and erotic images are differently processed in the brain and leave deeper impressions rather than verbal stimulation. Many clinical studies exist in the literature that depict a stronger relationship between pornography and the mental conditions of viewers. Ybarra and Mitchell (2005), and Wolak, Mitchell, and Finkelhor (2007) have associated depressive minds with online pornography-seeking and unwanted exposure. People in Pakistani society face many socioeconomic problems in their routine, which is the biggest reason for psychological depression. Most often, they encounter loneliness while fighting their depression, and this condition urges them to access pornography to satisfy their depressed emotions. To explore this fact, the following hypothesis has been tested in the study:

> (H5): Psychological feelings of loneliness, depression, and anxiety are related to the higher consumption of pornography.

The present study is purely based on a quantitative method for multiple reasons. First, the nature of the data collection instrument is a close-ended questionnaire. Second, it was impossible to go for detailed interviews with the participants because of the sensitivity of this issue and socio-cultural constraints in Pakistan.

2 Materials and Method

The survey research design was most suitable to explore the association of pornography consumption with the health and risky sexual behaviors of youngsters. Students were selected as a sample from two educational institutions upon approval for a survey from review boards of institutions. 224 respondents participated in the survey, including both males and females.

Their age group was divided into 18-26 and 26-30 years. Gender-wise, 166 (74.10%) were males, and 58 (25.89%) were females. The female sample ratio was low compared to males due to the social and religious constraints in Pakistan, as they are not responsive and are not allowed to answer such sensitive issues. Among the sample of students, most respondents were males (students from multiple faculties), while most females were medical professionals (medical students). The reason for this sample selection (female medical students) was the flexibility of their response to this issue. Being medical professionals, they were aware of the hazards and sensitivity of issues related to the consumption of pornography by youngsters of Pakistan in its social, cultural, and religious paradigms.

All the participants were briefed in detail about the purpose of the study. Those who were willing to participate were included in the sample. Further, they were asked if they had significant exposure to pornography, and upon their consent, we identified them as an accurate sample for our research. They have been told that the present study is purely based on an academic purpose, and their participation as a sample does not bind them to present their identities, e.g., name, phone number, and address. To access participants, we have done snowball sampling, and all respondents were ensured of their anonymity as sampled participants in the study. After their positive consent, they were requested to identify their friends or peers who consume pornography content so that the maximum sample subjects could be approached.

A questionnaire was selected as an instrument to collect data from the respondents. However, there was a hurdle in distributing questionnaires to obtain responses from female participants. Pakistan has a complex and conservative social system in which people are hesitant to express their opinions about this issue; specifically, females are highly restricted due to social and religious perspectives. That is why the services of female research assistants were hired, keeping in mind the nature of the research so that the survey from female respondents could be administered conveniently.

2.1 Measures

2.1.1 Demographic Characteristics

To assess participants by socio-demographic characteristics, we considered their age, education level, and marital status. These variables were dichotomized into 18-26, 26-30 graduate, post-graduate, and single, married. Participants were already given dichotomized options in a questionnaire despite several limitations. But it is important to note that no questions were asked that could leak their identity, i.e., name.

2.1.2 Pornography Consumption

Seven variables were explored related to the consumption of pornography among participants, and all items in the variables were given different options accordingly. The first item was "consumption frequency", and respondents were given the options of daily, weekly, monthly, and occasional. The second item was "first exposure age". Participants were asked to select options of 10 to 14, 14 to 16, and 16 to 18. The third item was related to the "first experience form of pornography" (with whom participants explored pornography first), and respondents were given the options of friends, siblings, net café, and self. The fourth was "source of exposure", and participants were asked to select options of CD/DVD, the Internet, TV, magazine, cinema, and mobile. The fifth item was "duration of watching videos", and they were given options of less than 3 minutes, less than 30 minutes, and more than 30 minutes. The sixth item was related to the "most liked porn category", and there were options of hardcore, softcore, scandal, erotic & romantic, and leaks. These categories were also defined respectively. The last one was the "most liked form of pornography", where participants were asked to mark one option among sex stories, static pictures, silent videos, videos with seductive voices, and real videos.

2.1.3 Risky Sexual Behavior

Five variables were assessed for risky sexual behavior (Cronbach's alpha= .89). Participants were asked about their behaviors after exposure by developing a 5-point Likert scale ranging from *strongly agree* to *strongly disagree* (mean = 15.3, *SD* = 3.74), including items of sexual imitation with partner in real lives (follow love making styles as watched in pornography), forceful sex, intercourse with commercial sex workers without protection (condom), using of medicine to increase sexual power, and excessive masturbation after every exposure towards pornography.

2.1.4 Personality and Behavior Variables

Sensation seeking was examined by two items that combine the assessment of sensation seeking (Hoyle, Fejfar, & Miller, 2000) and impulsivity (Donohew et al., 2000); these items were measured on a 5-point Likert scale named from *strongly agree* to *strongly disagree* (mean = 7.16, *SD* = 2.24). The two items comprised the statements, "I like to do scary things and usually explore pornography content at unsafe or public places at any time" and "Exploring pornography makes me feel good and provides an exciting experience". Higher scale scores indicated higher sensation among participants.

2.1.5 Health Outcomes

When considering participants' health, it is essential to consider their psychological and physical health. There were three items related to psychological health after watching pornography; these were summed and averaged (Cronbach's alpha = .77) by developing the same above 5-point Likert scale named from *strongly agree* to *strongly disagree* (mean = 8.85, *SD* = 2.78). The three statements about psychological health were "I get a release of negative emotions after watching pornography", "Pornography helps me to get relief from feelings of loneliness, depression, and anxiety", and "I usually get worried about my health after having masturbation caused by pornography".

Two items explored physical health variables. These items were "I feel sweating on my body after watching pornography content" and "I usually feel a higher heartbeat after watching pornography". These items were summed and averaged (Cronbach's alpha = .71) to create a scale score and measured on a 5-point Likert scale from *strongly agree* to *strongly disagree* (mean= 4.96, *SD*= 1.87).

2.1.6 Attention towards Pornography

Three variables were assessed first to know attention towards pornography in the context of consumption (Cronbach's alpha= .73) as it produces health effects on individuals (Rideout, 2001). These were explored by developing a 5-point Likert scale from *strongly agree* to *strongly disagree*, comprising of the statements "I usually prefer to watch pornography on a weekly or regular basis", "I rewind videos to explore pornography content keenly", and "I skip some scenes during exposure towards pornography".

3 Results

Variables	Male (*n* = 166)	Female (*n* = 58)	Total
Pornography consumption frequency			
Daily	5.8	0.0	5.8
Weekly	14.3	4.9	19.2
Monthly	13.4	9.8	23.2
Occasionally	40.6	11.2	51.8
First exposure age			
10 to 14	3.6	0.4	4.0
14 to 16	30.8	12.1	42.9
16 to 18	39.7	13.4	53.1
First experience form of pornography			
Friend	30.8	13.8	44.6
Sibling	6.7	0.0	6.7
Net cafe	19.2	6.3	25.4
Self	17.4	5.8	23.2
Source of exposure			
CD/DVD	3.1	0.9	4.0
The Internet	51.8	12.9	64.7
TV	1.3	0.0	1.3
Glamour Magazine	2.2	0.0	2.2
Cinema	0.4	0.4	0.9
Mobile	15.2	11.6	26.8
Duration of watching videos			
Less than 3 mins	22.8	6.7	29.5
Less than 30 mins	33.9	12.1	46.0
More than 30 mins	17.4	7.1	24.6
The most liked category of pornography			
Hardcore	11.2	2.2	13.4
Softcore	27.2	10.3	37.5
Scandal	7.1	3.6	10.7
Erotic and romantic	23.2	8.5	31.7
Leaks	5.4	1.3	6.7
Most liked form of pornography			
Sex stories	19.6	7.1	26.8
Static pictures	12.9	2.7	15.6
Silent videos	8.9	2.7	11.6
Videos with seductive voices	17.9	10.3	28.1
Real videos	14.7	3.1	17.9

TABLE 1: *Pornography consumption patterns of participants*
Source: own processing, 2024

As expected, male respondents were more exposed to pornography than females. Surprisingly, most respondents (51.8%), including males and females, were exposed to pornography occasionally. Participants were asked about a category of pornography that they liked the most. They were given the options of hardcore, softcore, scandals, erotic & romantic,

and leaks. Participants were given definitions of each type of pornography. 13.4% of people liked hardcore content, and it was defined as "video footage or content which includes sexual act's depiction like oral, vaginal or anal intercourse, fingering, ejaculation and anilingus actions in which a person stimulates another person anus by putting an object or by a mouth with the tongue, lips, and teeth". More than one-third (37.5%) of total respondents liked softcore pornography content, which typically includes a nude or seminude actor who remained involved in making love scenes and intended to arouse another sexually by any means. This category is considered less intrusive than hardcore as it does not include intercourse penetration or ejaculation activities. 10.7% of respondents liked scandals that are based on reality. It may be exposed to disgrace any person intentionally or unintentionally. It contains cloth and unclothed, both types of bodies which arouse someone towards sexual desire or romantic love. Very few respondents (6.5%) liked to watch leaked content described as videos usually recorded by hidden cameras against the will of other sexual partners.

Variables	Consume pornography on daily and weekly basis %		
	Male (*n* = 166)	Female (*n* = 58)	*p*-value (Sig.)
Age Group			
18 to 26	40.3	22.4	.007
26 to 30	35.5	37.9	.830
Marital Status			
Married	15.6	13.8	.039
Single	60.2	46.5	.027
Education Level			
Graduate	43.3	29.3	.442
Post-Graduate	31.9	31.0	.741
Risky Sexual Behavior			
Sexual imitation in real	45.7	25.8	.005
Forceful sex with a partner	26.5	17.2	.038
Use medicine for sexual power	55.1	54.2	.045
Intercourse with commercial sex workers without a condom	40.6	0.00	.033
Always do masturbation	32.5	29.3	.018
Sensation Seeking			
Like to do scary things	15.0	15.5	.029
Provide exciting experience	25.3	12.0	.011
Psychological Health			
Release of negative emotions	28.9	24.1	.013
Relief from loneliness & depression	33.1	34.4	.007
Get worried due to masturbation	46.9	31.0	.021
Physical Health			
Feel sweating on body	40.9	27.5	.009
High heartbeat	32.5	25.8	.002

*Chi-square tests were conducted separately for each gender within each category, and all are significant at *p* < 0.05 (2-tailed) except where indicated.
**Chi-square tests analyzing the association of frequent pornography viewers with age 26 to 30 and education level were found non-significant.

TABLE 2: *Eighteen-to-thirty-years old males and females' consumption of pornography on a weekly and daily basis by demographics, risky sexual behavior, sensation seeking, and post-exposure psychological and physical health*
Source: own processing, 2024

People falling into the young age group of 18 to 26, including males (40.3%) and females (22.4%), were more exposed to pornography content (=14.156^a, *df*= 1, *p*= .007). Surprisingly, married participants (15.6% male, 13.7% female) also consumed pornography on daily and weekly basis and these results were found to be significantly associated. (=4.278^a, *df*= 1, *p*= .039). As expected, the significant majority, including (60.2%) of males and (46.5%) of females, were unmarried and exposed to pornography daily and weekly. Education level was found to be insignificant with pornography consumption as no correlation was established, because a chi-square was found for graduates (= 0.591^b, *df*= 1, *p*= .442) and (= 0.599^d , *df*= 1, *p*= .741) for post-graduate. Similarly, the chi-square test =10.167, *df*= 1, *p*= .038) has shown that people with frequent exposure were involved in having forceful sex with their partner, which approve hypothesis 3 of this study. In almost every category of pornography consumption, male respondents were more likely to be exposed to pornography. A very slight difference has been found among males (51.1%), and females (54.2%) who used medicines to enhance their sexual power caused by frequent consumption (daily & weekly basis) of pornography. These results support hypothesis 4 of this study which predicted the relationship between risky sexual behavior (a medicine used for increasing sexual power) and consumption of pornography, a positive correlation was found, and chi-square was calculated =8.506^a, *df*= 1, *p<0*.05). Similarly, frequent pornography consumption among (23.4% of males and 17.2% of females) was found to be positively associated =10.508^a, *df*= 1, *p<0*.05) with the risky sexual behavior of intercourse with commercial sex workers without protection (condom). Furthermore, daily and weekly basis consumption of pornography was found to be significantly associated with feelings of loneliness, depression & anxiety, and these findings support hypothesis 5 of this study (=14.146^a, *df*= 1, *p*=.007).

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Sexual imitation in real life		.030	-.076	-.041	.065	.144*	.073	.104	-.012	-.058	-.054	.001	.110	-.002	.066
2. Forceful sex with a partner	.030		.147*	.012	.046	.037*	.184**	.029	.008	.030	.032	.049	-.019	-.002	-.076
3. Use medicine for sexual power	-.076	.147*		.104	.228**	.048*	.034	-.055	.138*	-.014	.017	.170*	.110	-.093	-.047
4. Intercourse with commercial sex workers without protection	-.041	.012	.104		.027	.022*	.025	.050	.081	.012	.010	-.004	.012	.036	-.084
5. Always do masturbation	.065	.046	.228**	.027		.096*	-.119	.077	-.003	-.110	.119	.078	-.053	-.085	.096
6. Watch porn daily and weekly	.144*	.037*	.048*	.022*	.096*		.027	.140*	-.069*	-.072*	-.031*	.039*	.079*	.148*	-.110*
7. Rewind videos for keen exposure	.073	.184**	.034	.025	-.119	.027		.195**	.061	.088	.110	.058	.221**	.113	-.038
8. Skip scenes during watching	.104	.029	-.055	.050	.077	.140*	.195**		-.005	.111	.214**	.014	.112	.220**	.008
9. Like to do scary things	-.012	.008	.138*	.081	-.003	-.069*	.061	-.005		.084	.064	.055	.088	.021	.022
10. Get an exciting experience	-.058	.030	-.014	.012	-.110	-.072*	.088	.111	.084		.128	.039	.227**	.193**	.039
11 Release of negative emotions	-.054	.032	.017	.010	.119	-.031*	.110	.214**	.064	.128		-.057	.237**	.119	-.029
12. Relief from loneliness & depression	.001	.049	.170*	-.004	.078	.039*	.058	.014	.055	.039	-.057		.047	.054	-.090
13. Get worried due to masturbation	.110	-.019	.110	.012	-.053	.079*	.221**	.112	.088	.227**	.237**	.047		.149*	.041
14. Feel sweating on the body	-.002	-.002	-.093	.036	-.085	.148*	.113	.220**	.021	.193**	.119	.054	.149*		.025
15. High heartbeat	.066	-.076	-.047	-.084	.096	-.110*	-.038	.008	.022	.039	-.029	-.090	.041	.025	

TABLE 3: *Zero-Order Correlations (Pearson's r) among variables*
Source: own processing, 2024

**Correlation is significant at a 0.01 level (2-tailed)
*Correlation is significant at a 0.05 level (2-tailed)

Table 3 suggests several relationships exist among variables of health and risky sexual behaviors after pornography consumption by participants. Hypothesis 2 of the study predicted an association between frequent pornography exposure and sexual imitation in real life. It is evident in the table that there is a correlation between forceful sex with a partner and using of medicine to increase sexual power. Thus, it can be said People who use medication for sexual power are more likely to have forceful sex with their partners as a significant association was established. Hypothesis 3 of the study predicted an association between frequent consumption of pornography and forceful sexual intimation; results in the above table were found to be significantly associated and approved this hypothesis – people who use medicines for sexual power are associated with masturbation.

Participants who watched pornography by rewinding the videos were more inclined to have forceful sex with their partners, as these variables are significantly correlated in Table 4. Frequent pornography consumption has also been found to be associated in Table 3 and Table 4 with the risky sexual behavior of intercourse with commercial sex workers without protection (condoms).

Figure 1 reflects participants' responses about their first exposure age towards pornography and their intercourse with commercial sex workers. Results show that early-age exposure to pornography was found insignificant with the assumption of sexual intercourse with commercial sex workers without protection. This variable was found insignificant here, but it has been found significantly associated with frequent consumption of pornography in Table 3 and Table 4. Here, very few people aged 10 to 14 agreed with the statement about having intercourse with commercial sex workers, and most of this age group denied risky behavior of sex at an early age. Therefore, hypothesis 1 of our study, which predicted the relationship between early age exposure and intercourse with commercial sex workers, has not been supported by the results.
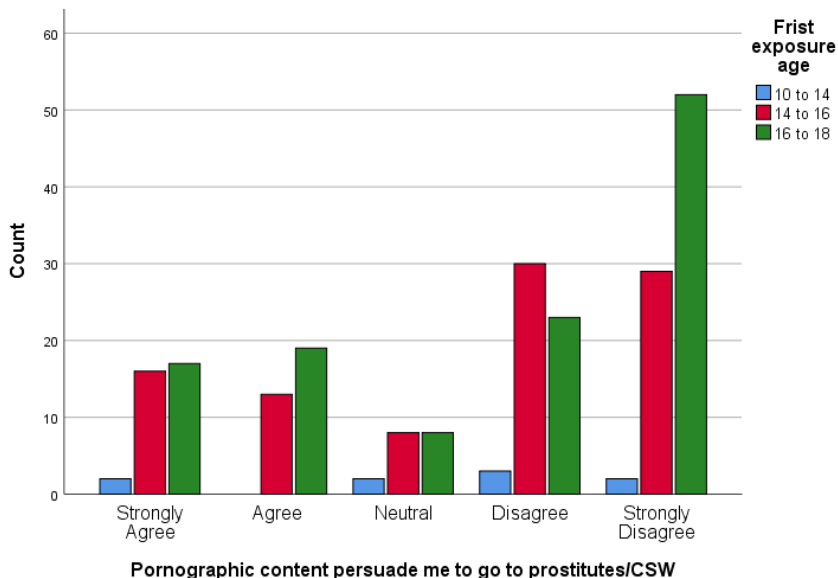

FIGURE 1: *Relationship between first exposure age and intercourse with commercial sex workers*
Source: own processing, 2024

	Consumption frequency pornography	First exposure age	First experience form	Source of exposure	Videos duration of watching	Type of pornography	Form of pornography
Sexual imitation in real life	-.031	-.018	-.039	.155*	.046	.020	-.037
Forceful sex with a partner	-.061	.130	.125	.101	.025	.119	.001
Use medicine for sexual power	-.051	.167*	.107	.009	-.220**	-.015	-.036
Intercourse with commercial sex workers without protection	.123	.063	.138*	.002	-.078	-.040	-.051
Always do masturbation	.047	-.059	.020	-.015	.010	.078	-.002
Watch porn daily and weekly	-.030	-.114	-.023	-.157*	.144*	.035	-.047
Rewind videos for keen exposure	.150*	.057	.152*	.198**	.023	.118	-.038
Skip scenes during watching	.255**	.119	.081	.016	.026	.083	-.011
Like to do scary things	.112	.075	.059	.005	-.143*	.110	.054
Pornography provides an exciting experience	.060	.047	.142*	.012	-.090	.145*	-.018
Release of negative emotions	.105	-.028	.056	.035	-.065	.130	-.012
Relief from loneliness & depression	.046	.128	.110	.037	-.039	.215**	-.052
Get worried due to masturbation	.079	.010	-.006	.273**	-.092	.034	-.022
Feel sweating on body	-.031	.036	.053	.033	-.059	.085	-.147*
High heartbeat	-.021	-.027	-.009	-.075	.059	-.008	.029

**Correlation is significant at a 0.01 level (2-tailed)
 *Correlation is significant at a 0.05 level (2-tailed)

TABLE 4: *Zero-Order Correlations (Pearson's r) between pornography consumption patterns and sexual attitudes and behaviors*

Source: own processing, 2024

Table 4 reflects the correlations among pornography consumption patterns with participants' post-exposure health and behavioral outcomes. The table shows that several relationships exist among these variables. The source of pornography exposure (the Internet, CD/DVD, mobile, etc.) has been associated with the sexual imitation of respondents in real life. It is interesting to note that a significant association has been proved between first exposure age to pornography and using of medicines for increasing sexual power. It can be said that people who watch pornography regularly or weekly skip some scenes while watching pornography. In Table 4, a strong relationship has been established between consumption frequencies and skipping scenes during exposure to pornography.

4 Discussion

The primary purpose of the study was to explore the association of pornography consumption with the health and risky sexual behaviors of youngsters in Pakistan. We found that relationships exist between frequent consumption (daily & weekly) of pornography content, health, and behavioral variables. The social system and religiosity in Pakistan forbid any Muslim to consume pornography content. Pakistan is a Muslim-majority country, but other religious minorities (Christians, Sikhs, and Hindus) also do not allow their followers to consume pornography content. People don't only watch, but also imitate that content in the shape of lovemaking and sex in real life. Frequent pornography consumption has been associated with using medicines to enhance sexual power and intercourse with commercial sex workers without protection (condoms). These results support the previous findings of Braun-Corville and Rojas (2009), in which they found a relationship between pornography and risky sexual behaviors of viewers. Psychological feelings of loneliness, depression, and anxiety were associated with frequent exposure to pornography (Prasad & Subramanian, 2024). These results strongly support a previous study (Wolak et al., 2007), which established a positive relationship between loneliness and frequent pornography consumption. As discussed above, individuals (but only males) approached commercial sex workers after regular exposure to pornography and intercoursed without protection, spreading sexually transmitted diseases (STD), Hepatitis, and AIDS. Due to no sexual education being provided at any stage frequent consumption of pornography could be a high-risk factor for viewers in Pakistan, where STDs and AIDS are increasing daily (National Institutes of Health, n.d.).

Along with the male respondents, females have significant exposure to pornography content, which is surprising because Pakistani society is male-dominated, where cross-gender interaction varies everywhere but is limited in general. However, the literature suggests that males have more exposure to pornography than females (Young-Petersen et al., 2024; Rodríguez-Castro et al., 2021). We understand that this study's female sample is disproportionate (25%). Still, the rationale behind this is Pakistan's conservative and complex society, where pornography is an extreme taboo for females. In the Islamic state of Pakistan, females have a glorious and respectable position in society (Ali & Hassan, 2016). Any question about pornography is considered obnoxious and immoral due to religious and cultural boundaries. We faced the biggest hurdle in administering a survey with female participants. Therefore, female research assistants were hired who performed their tasks confidentially and committed to female participants to keep their identities disguised. Thus, consuming pornography being a Pakistani female is much more surprising and must be given closer attention. Among 25% of total females, 13.4% were first exposed to pornography after age 16.

People explored pornography content even after getting married, which is quite astonishing and a question mark over a couple's relationship and the teachings of Islam. It is essential to clarify that people were given the options in the questionnaire about their marital status (single, married). Therefore, the present study has contributed to the literature as it is suggested that

demographic factors must be considered while assessing the impact of pornography content on youngsters (Bernstein et al., 2023; Peter & Valkenburg, 2016). We found pornography consumption among married respondents and their association with frequent exposure (daily and weekly) was also positive. The reason behind the focus on the results of married participants is Pakistan's religious and cultural boundaries. Spiritual teachings of Islam do not allow someone to watch nudity or obscenity, and people are tied to the sacred bond of marriage to avoid the sin of sexual activity with an unmarried person. But even after marriage, pornography consumption is alarming in Pakistan's religious society due to health (psychological & physical) hazards and subsequent behaviors. Concerning these results, it is suggested that people should be socialized about relationships and the hazardous effects (risks) of interacting with sex workers. Media literacy and sex education are vital for awareness about the consumption of sensitive content and the consequences of excessive consumption of erotic content (Noll et al., 2022). Ideological State Apparatuses (ISA), i.e., family, media, and education institutions need to educate people about immoral actions such as pornography consumption, intercourse with commercial sex workers, and medicine usage for sex. People should know that the fantasy of pornography content does not apply in real life. The study contributed in the context of Pakistan to the study of the relationship between exposure to pornography and psychological effects among youth. There is very little research on the issue in the context of Pakistan.

Furthermore, parental guidance should be there at children's early ages (10 to 18). Information technology experts should take immediate measures to prevent proxy servers, which might help to block porn websites and sexually violent content. Otherwise, youth will be addicted to pornography, which can cause numerous psychological and mental health problems in the future.

4.1 Strengths and Limitations

The present study has sufficient value and merit in Pakistan because very few studies have been conducted by scholars in this country on pornography consumption and risky sexual behavior. The research has gone through the challenging task of data collection from the participants, managed somehow by the authors. However, there were some impossibilities. Therefore, the study bears several limitations justified in the present context. First, the data was collected from the participants through snowball sampling because it was the biggest hurdle in identifying and persuading respondents to participate in the study. Additional research is warranted by applying generalized sampling methods to assess the impact of pornography consumption on viewers. Second, the female-participant ratio was lower than males because of cultural and religious boundaries. Third, the study has been conducted in the Pakistani context; hence, the findings are not generalizable to other parts of the world.

Ethical Approval: The researchers got approval from the departmental ethical research committee and submitted all the data to the committee for approval.

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Theory, Practice and Future of Corporate Marketing Management Education as Part of Tertiary Education

ABSTRACT

To update the research priorities, this study aims to define the main content elements of teaching business marketing management in tertiary education. Based on their identification, the aim was to evaluate and compare the overall rate of use of marketing tools in business practice over time. Subsequently, the study aims to measure the dependencies between the level of marketing vitality and the number of employees, the field of business and the year of the company's founding and to evaluate which online marketing tools companies know, use and plan to use in the future. We aim to evaluate whether real marketing practice corresponds to the topics taught in tertiary education in the Business Marketing Management program. To identify and understand teaching practice, the method of comparative research was used. To evaluate the feasibility of using marketing tools in real practice, multi-stage data collection using interviews and questionnaires was carried out in 2020-2023. The total number of respondents representing business entities in the Czech Republic was 411. Respondents were selected by random selection from the internal database of VŠFS, a.s., containing approximately 4,150 contacts to business entities. Statistical methods were used to evaluate the data and dependencies with verification of the received data using Pearson's coefficient, Student's distribution. Furthermore, descriptive exploratory analysis and the method of cluster analysis of the co-occurrence of words were used. The contribution of the study is the created list of topics used in teaching the subject Marketing Management of Enterprises in Tertiary Education. It can be stated that in real business practice, tools are used in accordance with the topics taught, tactical tools of the marketing mix are used as a priority. In the 2021-2023 timeline, the overall marketing vitality of companies is improving, especially in the area of external marketing communication. The findings highlight the importance of a balanced use of classic marketing tools in the offline environment with the incorporation of trendy online technologies into teaching and real business practice. Inevitably, the involvement of artificial intelligence (AI) in the marketing management of a business can be expected. The paper brings a new perspective on the connection between teaching theory and the practice of business entities. It appeals for cooperation between tertiary education and representatives of the business community and the practical application of theory, especially with the use of trendy tools of online marketing and artificial intelligence..

1 Introduction

Marketing theory and practice have utilized different marketing concepts in different time periods, depending on the economics (supply and demand), technology, cultural differences, customer needs, etc. of the time. It has influenced the specific approaches adopted by academics in teaching marketing and applied by managers in practice. The evolution of teaching marketing is a logical response to the evolution of the business environment (Hunt, 2010).

Mishra and Mishra (2023) show how the focal point of interests and topics is constantly changing across schools of marketing thought. They identified 12 schools. They also discuss the issue of closing the gap between academic and managerial perspectives on marketing theories. Heath et al. (2023) urge those teaching marketing management to get students excited about trend innovation and positive use of communication tools to address many of today's social and environmental challenges. Pitt et al. (2023) explore artificial intelligence (AI) specifically in relation to marketing and its potential applications in marketing.

Yet how will the knowledge gained through study ultimately be reflected in real-world business practices? The results of research have shown that companies with systematic, creatively managed marketing activities (i.e., the ones that apply knowledge from theory to practice) use trending technologies, optimize business management, and achieve business and marketing goals more effectively (Stuchlý et al., 2023). Applying knowledge of the use of digital technologies in marketing to practice is key to enabling companies to improve their competitive activities, increase their market coverage, and form a loyal customer base (Fayvishenko et al., 2023).

2 Literature Review

The literature on international perspectives regarding marketing education at the tertiary level reveals a multifaceted landscape shaped by various socio-economic, cultural, and institutional factors. This review synthesizes key findings from diverse studies, providing insights into the evolution, challenges, and strategies of marketing education across different countries. This paper addresses both the theory and practice of marketing management, and the literature review is therefore divided into two parts - one part on developing topics for teaching marketing management and one part on researching marketing management.

2.1 Developing Topics for Teaching Marketing Management

The role of socio-economic factors in shaping marketing education is evident in the work of Abedin et al., who argue that tertiary education significantly influences economic development, including stock market participation and foreign direct investment (Abedin et al., 2020). This connection underscores the importance of equipping students with marketing skills that are relevant not only to their immediate educational context, but also to broader economic frameworks. The findings suggest that marketing education should be designed to address the specific needs of local and global markets, thereby enhancing the employability of graduates.

In the context of integrated marketing communications (IMC), Dagumboy presents an IMC model tailored for Philippine higher education institutions, emphasizing the need for universities to adopt a cohesive marketing approach that resonates with the tech-savvy generation of students (Dagumboy, 2022). This model illustrates the importance of leveraging digital platforms and social media as effective marketing tools, a sentiment supported by Ghansah et al., who advocate for the use of social media to enhance visibility and engagement in tertiary institutions (Ghansah et al., 2015). The convergence of traditional and digital marketing strategies is essential for attracting a diverse student body and responding to the evolving preferences of prospective students.

The impact of educational quality on marketing education is another critical theme. Simangunsong discusses the necessity of quality management systems in higher education to ensure that institutions remain competitive and responsive to market demands (Simangunsong, 2019). This perspective aligns with the findings of Garcia-Alvarez et al., who emphasize the importance of transversal competencies – skills that transcend specific disciplines and are essential for employability – in the curriculum of marketing education (Garcia-Alvarez et al., 2022). By integrating these competencies into marketing programs, institutions can better prepare graduates for the complexities of the modern labor market.

Furthermore, the internationalization of marketing education is a significant trend that reflects the increasing mobility of students and the globalization of the workforce. Nascimento et al. explore the barriers and drivers of universal access to higher education, highlighting the need for policies that promote inclusivity and diversity in educational settings (Nascimento et al., 2022). This is particularly relevant in the context of marketing education, where understanding global markets and cultural nuances is paramount. The ability to navigate different cultural contexts and consumer behaviors is a critical skill for marketing professionals, necessitating a curriculum that is both locally relevant and globally informed.

The relationship between educational expansion and labor market outcomes is also noteworthy. Delaney et al. examine the phenomenon of overeducation among graduates, suggesting that while tertiary education has expanded, the alignment between educational qualifications and job requirements remains a challenge (Delaney et al., 2020). This misalignment can lead to underemployment and dissatisfaction among graduates, underscoring the need for marketing education programs to closely monitor labor market trends and adapt their curricula accordingly. By fostering partnerships with industry stakeholders, educational institutions can ensure that their programs remain relevant and that graduates possess the skills demanded by employers.

Marketing science has often claimed and continues to claim that marketing begins and ends with the **customer**. For this reason, academic research and, ultimately, academic instruction has tended to focus on customer behavior (Kotler & Levy, 1969) and customer segmentation, targeting, and positioning, as well as their importance in influencing customer purchasing decisions (Sukamdani et al., 2023). The subject of the general theory of teaching a marketing system has been describing, explaining, and predicting the market behaviors central to trading and marketing activities for groups of sellers and buyers (Shaw, 2020). Focus has gradually shifted to models of efficiency measurement in the context of customer relationship management (CRM). Methods have been sought, explored, and described that allow for the assessment of relationships between different CRM resources and company performance. An emphasis is placed on connecting people (customers, employees) with technology (CRM applications, AI) and the impact on performance (Wang, 2023).

The relatively new field of **marketing research** has been introduced and is being taught (Daymon & Holloway, 2011). In the history of marketing research, it was common for professors of marketing to carry out their activities in companies specializing in market research or in consulting firms, publish the results, and incorporate them into their teaching (Casotti, 2019). Researchers have debated the appropriateness of using qualitative, quantitative, or mixed methods of research (Gummesson, 2002). And yet it is undeniable that the diversity of knowledge regarding marketing has been cultivated through research efforts conducted by universities with students for implementation into corporate practices (Farrell, 2001).

Other academic outputs and teaching have focused on **companies and corporate marketing strategies**, managerial activities such as planning, controlling, brand management, product design, logistics, and pricing, legal frameworks for marketing activities, etc. (Schwarzkopf, 2015). The first definition of the marketing mix was published by McCarthy in 1960. He presented it as a choice of tools that a company intends to combine in order to satisfy a (particular) target group. Since it was conceived in the 1970s, the marketing mix has been considered

a fundamental principle of commercial and social marketing (Lahtinen et al., 2020). Nonetheless, as marketing theory evolves, always one step behind practice, new types of marketing mixes have been developed and defined that might better capture a specific model, solution, or marketing strategy in relation to real-world factors influencing the market. In practice, many other tools and concepts have been utilized and presented to students - the 4C marketing mix (Nguyen-Tan & Kuo-Liang, 2022), the 4S (Gao & Zhao, 2022), the 4A (Duo et al., 2023), the 4E (VanDyke et al., 2023), and other important marketing concepts now focusing on corporate social responsibility, sustainability, and resilience (Abourokbah et al., 2023; Ostadi et al., 2023).

The growth of the media environment and communication tools has made it possible to expand teaching to cover **the impact of media tools (TV, radio, print, the Iinternet) and the communication mix (advertising, sales promotion, PR, DM, personal selling) in the offline and online space** on business competitiveness and customer buying behavior. Crescitelli and Figueiredo (2009) characterized the digital environment and its impact on the creation of brand loyalty. According to Pecot et al. (2018), the use of social media is becoming an important marketing communication tool in B2C and B2B markets in service marketing, tourism marketing, sports marketing, election marketing, educational marketing, and other industries (Fagundes et al., 2023).

One trending tool representing the future of the field is **artificial intelligence (AI)**, which has demonstrated the power and potential to literally shake up the status quo in various areas of theoretical and practical marketing and teaching (Davenport et al., 2020). While the human factors (experience, intuition) incorporated into purchasing decisions, branding, WoM, and other concepts continue to play a vital role (Chen et al., 2022), AI offers a new way to acquire, process, and analyze data, as well as to generate insights and deliver personalized results (Jarek & Mazurek, 2019). AI applications may fundamentally change the way marketing is implemented in corporate practice (Kumar et al., 2019) and taught in tertiary education. Digitalization is a phenomenon that is not only linked to certain specific industries of the economy, but that affects the economy as a whole (Stacho et al., 2023).

The above text allows us to define a research question (RQ)1 - What topics are the focus of teaching in the Marketing Management course in 2023?

2.2 Researching Marketing Management

Marketing knowledge, skills, and capabilities can be selectively and strategically used by entrepreneurs to increase their competitiveness. A comprehensive assessment of marketing capabilities of SMEs was undertaken by Oduro and Mensah-Williams (2023). They reached the conclusion that marketing communication capability, distribution channel management capability and product development capability significantly and positively affect marketing performance and customer performance, but not financial performance. Sales capability and marketing planning capability have a significant positive effect on all manner of competitive performance, i.e., financial performance, marketing performance, customer performance, and the adaptability of business entities. Similar issues have been addressed by Joensuu-Salo et al. (2023). They examined the growth rate of SMEs over a three-year period, the relationship between company size and company growth, and the effect of marketing capabilities (resources and dynamic capabilities) on company growth. The results showed that company size is not related to the rate of change. Smaller SMEs have fewer marketing capabilities than larger SMEs.

Phokwane and Makhitha (2023) focused on the impact of marketing communications on SME performance. It was found that there is a positive correlation between marketing communication strategies and SME performance, and that some elements of marketing communication (sales support, personal selling, direct marketing) influence sales growth, customer relationships, customer loyalty, and profitability. They showed that there is a significant relationship between

the use of new media communication tools and increased profitability. Digital marketing and public relations are marketing communication strategies that influence customer loyalty.

Belas et al. (2022) explored differences in the use of marketing tools in the management of SMEs in the countries of the Visegrad Group (V4). The results of this analysis yielded interesting findings. Where a company primarily uses the tools of the classic marketing mix, it is likely that they do not use tools of a proactive marketing mix or the tools of online marketing. Currently, the tools of the classic 4P marketing mix are used to a minimal extent in the construction and service industries. Tools of a proactive marketing mix (4P, 4S, 4E, etc.) are most widely used in the transportation and retail sectors, and least used in the manufacturing, construction, tourism, and other business sectors. Online marketing tools are used particularly in the retail, tourism, and service sectors, and least in the agriculture, construction, and transport sectors. Businesses less than three years old use online marketing tools less than businesses that have been on the market for ten years or more. Limited liability companies use online marketing the least.

Nwankwo and Kanyangale (2023) examine the importance and impact of applying green marketing tools on the competitiveness of SMEs. The direct and indirect effects of business networks and the influence of the capability to implement online marketing on SME performance are discussed by Lubis et al. (2023). The relationships between static marketing capabilities, dynamic marketing capabilities and the international performance of SMEs are assessed by Reimann et al. (2023). According to Nwankwo and Kanyangale (2023), orientation on customer (CRM) has a significant and positive impact on the survival of commercial and manufacturing SMEs, followed by quality of service and scope of services offered to customers. Likewise, Nguyen-Tan et al. (2021) focus on sales practices involving the use of digital tools (omnichannel marketing, user-generated content, interactive content, live video/live streaming, influencer marketing, artificial intelligence applications, etc.) to develop and manage customer relationships. Saraswati (2021) devoted research to Corporate Social Responsibility (CSR) of SMEs and its impact on business success. Khalid et al. (2023) took on the objective of investigating the effect of sustainability marketing on customer brand loyalty. Pandya et al. (2023) explored implementing the most important Industry 4.0 technologies and taking maximum advantage of sustainability. Robledo et al. (2023) sought to understand the mediating effect of networking on the relationship between effectiveness and WOM marketing. A study by Wong and Haque (2022) examines the factors leading to online loyalty in relation to brand impact (i.e., brand innovation and brand love) as well as the effects of websites (i.e., visual appeal, perceived enjoyment and trust) on customer loyalty. The findings showed positive effects of the innovativeness of the brand on brand love, trust, and visual appeal. Kupec et al. (2021) examine whether there is a conceptual problem in the adequate application of internal audit and internal control in a real marketing environment.

It is evident from the text that most of the authors mentioned in these studies focused on individual topics, strategies, or tools of marketing mix and their effect and influence on customer loyalty or SME performance. A comprehensive treatment of the link between marketing theory and real-world practice only rarely appears.

The above text allows to define research questions (RQ 2-6) and Hypotheses H1-H3.
RQ2 addressed the following question: which of the parameters of marketing management is used by SMEs to the greatest extent?
RQ3 addressed the issue of whether overall marketing vitality is related to other factors, such as: business sector, company size by number of employees, and year the company was founded. This research question is followed by formulated hypotheses:

    H1 There is a statistically significant relationship between the assessed marketing vitality parameters and business sector.

H2 There is a statistically significant relationship between the assessed marketing vitality parameters and company size by number of employees.

H3 There is a statistically significant relationship between the assessed marketing vitality parameters and year the company was founded.

RQ4 addressed the issue of what specific trending online marketing tools the company is aware of.

RQ5 addressed the issue of what specific trending online marketing tools the company actively uses for marketing management.

RQ6 addressed the issue of what specific trending online marketing tools (beyond the existing ones) the company plans to actively use for marketing management by 2025.

3 Methods and Data

Methods and data were also formulated for the section on teaching topics (at selected colleges and universities) and the section on evaluating marketing management tools (marketing vitality) in the real-world practices of companies in the Czech Republic.

3.1 Teaching Topics

Using comparative research according to Bryman and Bell (2015), we understand comparative research design as a social inquiry, a methodological approach focused on direct comparison of two or more units with the goal of identifying their similarities and differences. Hendl (2016) defines comparative design as a research plan for comparing the characteristics of selected cases. In typical sociological or marketing research, the cases studied may include countries, cultures, organizations, individuals, or different time periods. The main goal of comparative research is to understand, and above all to explain, the patterns of similarity and variability in social and behavioral processes. The sources of research data are publicly available information from the official websites of the schools and printed materials about degree programs and specific disciplines that involve teaching marketing management.

3.1.1 Selection of Countries and Universities for Comparison, Rationale for Their Election

When selecting countries and universities for this comparative study, several key criteria were specified:

- The selected institutions have a **high level of educational quality** and are internationally recognized for their educational programs, which gives them a **good reputation** in the area of tertiary education.
- Selected institutions offer a **master's degree program** in marketing management or a related field, which makes it possible to obtain more detailed information about teaching methods, content, and the range of topics taught.
- **Cultural diversity** allows for an examination of how pedagogical methods and approaches may differ in different sociocultural contexts.
- **Geographic coverage** was chosen to ensure a representative distribution from different parts of the world, which allows for a comprehensive view of global trends in teaching marketing management.

To analyze the documents, it was necessary in some cases to request detailed information about the degree program via a relevant web application (usually on the basis of simple registration). This ensured that the baseline data was current.

ČR	University of Finance and Administration, a.s., Prague
SR	Univerzita sv. Cyrila a Metoda, Trnava
UK	London Business School, London
USA	Rutgers University, New Jersey
SAE	The University of Dubai, Dubai

TABLE 1: *Universities teaching the subject of Marketing Management*
Source: Knihová & Petrů, 2023

3.2 Use of Marketing Tools in SME Practice

The target population of this study consisted of entrepreneurs (owners or managers) of enterprises operating in the Czech Republic. The random selection of the sample of respondents utilized a database of business entities created at VŠFS, a.s., that has been in use since 2015. As of the date of starting the study, it contained data verified in the ARES database of business entities (2,129 active business entities; in 2023 the database contained 2,730 records). The principle of random sampling was used to carry out the survey. The research conducted and the evaluation of the results obtained from it fall into the descriptive statistics field of exploratory data analysis. Data on firms were collected from multiple sources (Public Register and Collection of Deeds, Czech Statistical Office, company websites, etc.) so as to increase the validity of the study (Eisenhardt, 1989; Piekkari et al., 2009).

Primary data on the topic of use of marketing management tools was collected using a survey among active Czech business entities; the survey was based on a structured questionnaire. The first step of the survey was the design of the survey questionnaire. The survey was initiated by providing information about the researchers, the context, and the objectives of the survey and asking the participants for their consent to participate in the survey and to process their data. It is important to note that participation in the survey was voluntary and anonymous. The body of the questionnaire had three parts:

Part 1 identified basic demographic information about the company (Name, Legal form, ID number, ZIP code, CZ NACE number of main activity, Year founded, Number of employees).

In Part 2, respondents were asked to select answers on a Likert scale from 1 (lowest level) to 5 (highest level) from selected areas related to marketing. Parameters assessed - see Table 2. When compiling the parameters, the researchers drew on a review of scholarly marketing literature and clusters of marketing themes recurring in a systematic literature review, the questionnaire, and the outputs of research on marketing vitality and quality management (Petrů et al., 2020; Jáč et al., 2017; Rydvalová & Antlová, 2020). Partners with experience in marketing management, and business consulting from Deloitte collaborated in the development of the questionnaire. After two cooperative rounds among the participating partners, the final version was created of the assessed parameters.

Parameter assessed	Specification of the parameter	Abbreviation for statistical evaluation
Marketing management	Level and approach to marketing management.	MM
Inputs/outputs	The level of management, the stability of the company, and, at the same time, its ability to respond to market changes in relation to innovating the tools of the marketing mix.	IO
STP customers	The degree of use of segmentation, targeting, and positioning as part of marketing management.	STP
Internal communications	The internal communications capabilities of the company; the level and quality of internal communications.	IC
External communications	The scope, targeting, and systematicity of marketing communication tools used on customers.	EX
CRM	The ability of the company to manage customer relationships and the technology it uses for this purpose.	CRM
Marketing plan	The approach of management to planning and evaluating marketing activities.	MP

TABLE 2: *Factors included in the questionnaire*
Source: own processing, 2024

Part 3 focused on the use of specific trending tools of online marketing. This part was incorporated in 2023. Respondents were presented with three open-ended questions:

1. What specific trending online marketing tools is your company **aware of**?
2. What specific trending online marketing tools does your company **actively use** for marketing management?
3. What specific trending online marketing tools (beyond the existing ones) does your company **plan** to actively use for marketing management by 2025?

3.2.1 Data Collection Method and Time Frame

Data collection was conducted by trained field staff (research and teaching assistants) in the form of primary qualitative research, semi-structured interviews. From 20 October to 20 November 2020, a pilot testing period took place in order to obtain initial feedback and make corrections. The study was officially launched on 01 December 2021. During 2021-2023, information was collected from 450 business entities in the Czech Republic. Of these, 411 records were used after excluding incomplete or incorrect data (i.e., 91.33% were valid).

It was first necessary to convert the acquired data into a format that could be mathematically processed. Numerical codes were used for this purpose, which not only categorized the responses, but also assigned them a quantified outcome.

Statistical validation of the acquired data was carried out using Pearson's coefficient (Kilic, 2016; Conelly, 2011); the Student's t-distribution (Anděl, 1985) and Coefficient of Variance (Tomšik, 2017) were used where it made sense. In isolated cases, other statistical methods were also used. The study sample was tested in terms of the completeness of the test variables using the SPSS software. The sample met 100% data completeness. This was followed by a test of the reliability of all tested data by computing Cronbach's alpha. The value of Cronbach's alpha is 0.887 which translates to a good value of acceptability. The following values then applied for the Pearson correlation analysis: a value of 0.00-0.19 represented very weak correlation, 0.20-0.39 a weak correlation, 0.40-0.59 a moderate correlation, 0.60-0.79 a strong correlation, and 0.80-1.00 a very strong correlation. For the test of Student's t-distribution, the quantile was 6.31 given 95% probability (a significance level of 0.05) and a degree of freedom of 1. Based on the correlation and probability values calculated, the studied data can be declared reliable. The results and conclusions presented can thus be accepted with high probability.

The following factors were used as independent variables in the calculations: year founded, size category of the enterprise, and main business sector according to CZ-NACE categorization. The dependent variables used consisted of the average of the specified parameters (see Table 1, MM, IO, STP, IC, EX, CRM, MP). Given that number of employees covers a period longer than one year, these data were treated as continuous functions. Year founded and business sector are discrete variables and were processed accordingly.

Given the scope of the data, mathematical statistical methods from descriptive statistics, sum (sum) and average were used to evaluate the acquired data. No standard deviation or coefficient of variation was computed for the averages, as the differing character of the categories of the independent variables would mean there was nothing to compare them to, or would result in bias without significant predictive power. The responses to the open-ended questions were processed to determine word frequency using the cluster analysis method (Ostadi et al., 2023). All verbal responses were listed out on a single list in chronological order, i.e., in the order in which they appeared in the text of the questionnaire responses, then thematic clusters were created based on similarity, and their frequency was calculated (Koutná Kostínková & Čermák, 2013). The calculations and graphics of the clusters were processed in the JMP program.

Year of foundation	2021 n=157	%	2022 n=178	%	2023 n=76	%
until 1990	7	4,46	7	3,93	1	1,34
1991-2000	53	**33,76**	58	**32,58**	27	**35,52**
2001-2010	40	**25,48**	40	**22,47**	17	**22,36**
2011-2020	57	36,30	67	37,64	22	28,94
2021-2023	0	0	6	3,38	9	11,84
Σ	157	100	178	100	76	100

TABLE 3: *Year founded*
Source: own processing, 2024

From the above table, it can be seen that most of the business entities were founded between 1991-2010 (2021: 59.24%; 2022: 55.05%; 2023: 57.88%) and it can be assumed that they have had the opportunity during the course of their approx. 30-year existence to verify the knowledge, effectiveness, and efficiency of their use of marketing management tools in practice. Another factor that played a role is that a number of underperforming companies (also due to the impact of COVID-19, high inflation, disruption of supplier/customer relationships, and other macro-environmental factors) have gone out of business. The resilient firms with astute, efficient, and experienced management capable of guiding the firm through the crisis survived.

Number of employees	2021 n=157	%	2022 n=178	%	2023 n=76	%
0	6	3.82	3	1.69	1	1.32
up to 20 employees	82	**52.29**	85	**47.76**	34	**44.74**
up to 50 employees	25	**15.92**	42	**23.59**	22	**28.95**
up to 100 employees	20	12.72	17	9.57	5	6.58
up to 250 employees	11	7.00	11	6.18	6	7.89
up to 500 employees	8	5.08	5	2.80	2	2.63
over 500 employees	5	3.17	15	8.41	6	7.89
Σ	157	100	178	100	76	100

TABLE 4: *Number of employees*
Source: own processing, 2024

From the above table, it can be observed that most of the respondents (representatives of the business entities) can be categorized as SMEs, predominantly with up to 20-50 employees (2021: 68.21%, 2022: 71.35%, 2023: 73.69%). This is in line with the trend of the last twenty years in developed economies. Large companies with many employees have merged or been otherwise concentrated, resulting in an outflow of production capacity to countries with lower production costs. The smaller ones have remained on the market. In the Czech Republic, the share of small and medium-sized enterprises out of the total number of active business entities is about 99.83% (Ministerstvo průmyslu a obchodu ČR, 2018).

CZ NA CE No.	Definition of main sector	2021 n = 157	%	2022 n = 178	%	2023 n = 76	%
0	agricultural and livestock production, extraction of raw materials;	12	7.64	36	**20.22**	5	6.57
1	food, footwear, clothing, wood processing;	24	**15.38**	20	11.23	11	14.47
2	logging, chemical and pharmaceutical industry, manufacture of building materials, steel and metalworking, electrical equipment and electronics, engines and machinery, motor vehicles;	15	9.21	13	7.30	5	6.57
3	ships, aircraft, locomotives, and other modes of transportation, furniture, other processing industry, production and distribution of power, gas, and heat, water management, waste management;	3	1.91	8	4.49	1	1.31
4	construction, wholesale and retail trade, ground transport;	54	**34.41**	52	**29.21**	18	23.74
5	water and air transport, warehousing, accommodations, dining and hospitality, publishing;	12	7.74	11	7.43	6	7.89
6	radio, television, telecommunications, IT, banking, insurance, real estate;	16	10.34	16	7.98	15	19.73
7	business management, engineering, research and development, promotion, special services, veterinary, leasing, agencies;	10	6.36	10	5.61	8	10.52
8	security, cleaning, brokering, public administration and defense, education, social care, outpatient services;	7	4.47	8	4.47	2	2.63
9	arts activities, library, gaming and casino, professional organizations and associations, repairs, home improvement, mining and support industries;	4	2.54	4	2.24	5	6.57
Σ		157	100	178	100	76	100

TABLE 5: *Business sector according to CZ-NACE*

Source: own processing, 2024

From the above table, it can be seen that the business entities are represented in all business sectors. The majority of business entities can be classified according to CZ-NACE business sector into category 4: construction, wholesale and retail trade, ground transport; then into category 1: food, footwear, clothing, wood processing (in sum for these sectors, 2021: 49.79%, 2022: 44.44%, 2023: 38.21%).

4 Results

Results were also formulated for the section on teaching topics and the section on evaluating marketing management tools (marketing vitality, MV) in the real-world practices of companies in the Czech Republic. The significance of connecting theory with practice is then discussed.

4.1 Marketing Management Teaching Topics

The text of the theoretical background made it possible to define the research question: **RQ1** – What topics are the focus of teaching in the Marketing Management course in 2023?

Topic/keywords taught	CZ	SK	UK	USA	UAE
Topic 01/the importance of marketing for business management	·	·	·	·	·
Topic 02/situation analysis	·	·	·	·	·
Topic 03/marketing research	·	·	·	x	·
Topic 04/types of markets, STP	·	·	·	·	·
Topic 05/product mix	·	·	·	·	·
Topic 06/price mix	·	·	·	·	·
Topic 07/distribution mix	·	·	·	·	·
Topic 08/communication mix	·	·	·	·	·
Topic 09/media mix and social media	·	·	·	N/A[1]	N/A
Topic 10/branding	·	·	·	·	·
Topic 11/marketing planning	·	·	·	·	·
Topic 12/technology, innovation, applications, artificial intelligence	·	·	·	·	·

TABLE 6: *Thematic focus of the marketing management course*
Source: Knihová & Petrů, 2023

RQ1, on what topics are the focus of teaching in the subject of Marketing Management in the year 2023, can be answered as follows:
- All of the selected universities incorporate traditional marketing topics in their teaching (see Table 6), although they teach them in different order and at different intensities with regards to the scope of the curriculum and the time commitments of the students.
- All of the selected universities devote attention to technology, innovation, and applications, including artificial intelligence. This highlights the growing importance of technological innovations in marketing and the need to prepare students for digital transformation in the field.
- Topics related to the media mix and social media are not represented in the teaching plans of the Marketing Management subject in the US and UAE. Given the importance that social media play in today's marketing environment, particularly in the US, it can be assumed that specialized courses with this focus are also represented in the degree program, and the topic is not taught directly in the Marketing Management course, or may be part of the communications mix, albeit without a specific emphasis on social media.

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[1] Authors' note: N/A (Not Applicable) indicates that it was not possible to find information with this designation when analyzing the teaching plans and that the topic is not taught under the subject of Marketing Management according to available information.

The integration of business marketing management lessons into university curriculum is essential to prepare and orient students in the modern marketing environment. The following synthesis examines the interaction of key marketing themes with the existing theories and their implications for increasing the relevance and practice of the marketing management curriculum at higher education institutions.

The importance of **marketing for business management**. Marketing is considered a key function in business management in educational materials. It affects various organizational aspects, including strategic planning and creating a competitive advantage. The importance of marketing is underscored by its role in shaping consumer perception and behavior, especially through the pricing picture, which influences purchase probability and brand preference (Chernev & Hamilton, 2018). Teaching materials emphasize the necessity of integrating marketing strategies into broader business goals to increase organizational efficiency and adaptability (Gurel & Tat, 2017). This knowledge is essential for students to understand the strategic importance of marketing in driving business success, business resilience, and long-term sustainability.

Situational analysis and marketing research serve as an essential element in marketing management and enable businesses to effectively evaluate their internal and external environment. Tools, such as STEEP, PEST, SWOT, competitive benchmarking, etc. are vital for students because they facilitate informed decision-making (Wright et al., 2019). In addition, incorporating marketing research methodologies, including qualitative and quantitative analyses, is essential for understanding market dynamics and consumer needs. For example, the use of analysis for market segmentation allows businesses to more accurately tailor, personalize their product and service offerings to consumer preferences (Djokic et al., 2013).

Market types, segmentation, targeting, and positioning. Understanding market types and segmentation, targeting, and positioning (STP) processes is the foundation of marketing education. The STP framework allows both marketing and commerce to identify distinct consumer groups and tailor marketing efforts accordingly. This also increases the effectiveness of communication campaigns. Theoretical models that support these concepts, such as the 7P framework (product, price, location, promotion, people, process, physical evidence), provide students with a structured approach to developing comprehensive marketing strategies (Anggraeni et al., 2024). The knowledge gained is especially important in the context of digital marketing, where precise targeting can significantly affect the success of a communication campaign.

The **marketing mix**, including product, pricing, distribution and communication strategies, is an essential component of the marketing curriculum. Each element dynamically interacts and influences consumer behavior and business performance. For example, pricing strategies must take into account consumer perceptions of value and fairness, which are critical in competitive markets (Chernev & Hamilton, 2018). In addition, the integration of digital channels into the communication mix is becoming increasingly important. Businesses need to be able to navigate the complexity of online needs, requirements, expectations, and consumer engagement (Arifin et al., 2022). Teaching students and appealing to the importance of interplay of these elements will prepare them for current digital marketing challenges.

Branding is a crucial aspect of marketing that affects consumer loyalty and brand positioning in the market. Effective brand management strategies are essential, especially during an economic downturn, when maintaining brand value is becoming a crucial parameter for corporate marketing success (Drewniak & Karaszewski, 2016).

Marketing planning processes are essential for modern marketing management. Businesses can use trending AI applications and technologies to create comprehensive marketing plans. AI can improve decision-making by providing comprehensive and up-to-date market analysis, insights into consumer behavior in a specific market, and optimizing marketing strategies (Fayed, 2020). Universities must emphasize these trends in their teaching to ensure that students are well equipped for the evolving marketing environment.

Trending technologies, innovation – the rapid advancement of technology and innovation in marketing is reshaping all business sectors. Integrating AI into marketing strategies not only streamlines operations, but also improves the ability to analyze consumer data and predict market trends (Fayed, 2020). The ability to work with new technologies is essential for students. They must be prepared to use these tools in their future careers. Understanding the implications of digital transformation of marketing practices is significant for developing effective marketing strategies in today's and tomorrow's digital environments (Zhang, 2021).

It can be concluded that the interaction of marketing topics with established theories provides a robust framework for annually updating and improving the content of marketing management curricula at universities. By integrating modern elements into their learning experience, institutions can better prepare students for the complexities of modern marketing and ensure that they have the necessary skills and knowledge to ensure their success in the job market.

4.2 Results for the Use of Marketing Tools in SME Business Practices

RQ2 addressed the following question: which of the parameters of marketing management is used by respondents to the greatest extent?

Evaluated parameter	2021 n=157	2022 n=178	2023 n=76
Marketing management	2,08	3,08	3,25
Inputs/outputs	**3,78**	**3,93**	3,93
STP customers	3,44	3,65	3,78
Internal communication	2,60	2,75	3,16
External communication	3,09	3,31	**4,01**
CRM	2,71	3,08	3,20
Marketing plan	2,60	3,09	3,41
Σ	2,90	3,27	**3,53**

TABLE 7: *Time series (2021-2023) of the average rating of the parameters according to the Likert scale (1-5)*
Source: own processing, 2024

RQ2 may be answered as follows. Of the parameters evaluated, the companies make the most use of diversification of their product portfolio, pricing and distribution channels, a wide range of customers, and tried and tested suppliers. In principle, these are tools of the marketing mix. A significant advancement in the use of external communication tools took place in 2023. Corporations communicate with customers to the extent stipulated by law and use promotions in a targeted and long-term manner in conjunction with marketing tactical and operational plans. They financially evaluate the benefits of specific promotional activities. The time series also showed a year-on-year increase in average ratings. There was a 0.37-point increase in 2022 compared to 2021, a 0.26-point increase in 2023 compared to 2023, and a 0.63-point increase in 2023 compared to 2021.

RQ3, whether overall marketing vitality is related to other factors, such as business sector, company size by number of employees, and year the company was founded, gave rise to hypotheses H1-H3.

H1 There is a statistically significant relationship between the assessed parameters and business sector.

The results of the statistical analysis are provided in Table 8.

CZ NACE/year of research	average marketing vitality, 2021	average marketing vitality, 2022	average marketing vitality, 2023
0	3,34	3,4	3,64
1	3,07	3,38	3,42
2	3,13	3,29	3,51
3	2,8	3,64	2,42
4	2,94	3,11	2,88
5	2,55	3,14	2,88
6	3,08	2,99	3,95
7	2,85	3,41	3,92
8	3,59	3,39	3,42
9	2,89	2,96	3,45
Pearson	0,09	0,44	0,19
Student T-test	0,08	0,12	0,13
average	3,02	3,27	3,35
dispersal	0,08	0,04	0,21
σ	0,28	0,20	0,46
% σ	9.2	6.2	13.8

TABLE 8: *Dependence of MV on CZ-NACE business sector*
Source: own processing, 2024
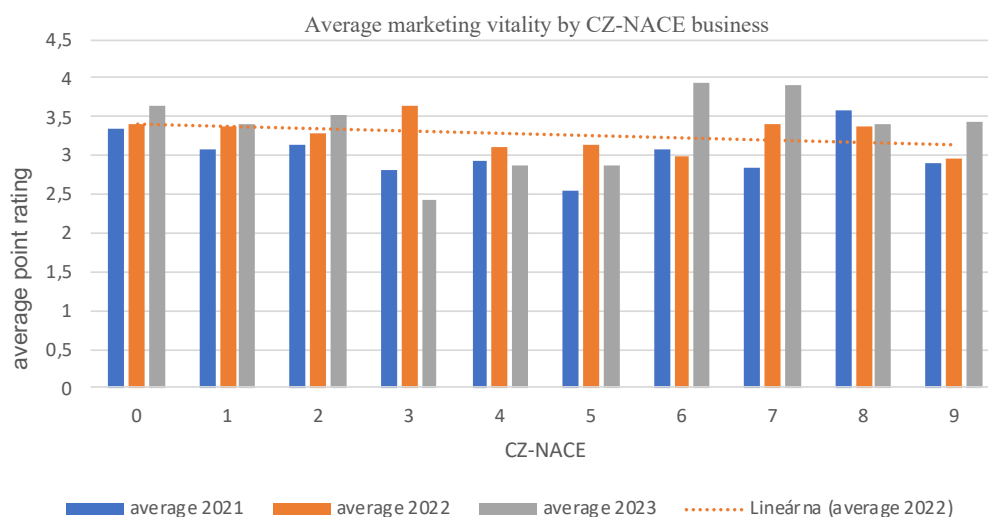
FIGURE 1: *Average marketing vitality by CZ-NACE business sector*
Source: own processing, 2024

It is not possible to validate H1. According to the Pearson's coefficient of the values (0.09, 0.44, 0.19), there is a very weak to moderate positive correlation. There are no significant differences in overall Marketing Vitality values among the individual business sectors of the main business activity of the companies according to the statistical number of the main CZ NACE business sector. The results in the survey conducted differ from each other slightly from one year to the next, but the differences between the individual business sectors and the average Marketing Vitality value are 6-14%. These are therefore less significant differences.

H2 There is a statistically significant relationship between the assessed MV parameters and company size by number of employees.

Number of employees/ year of research	2021	2022	2023	average MV	% MV
0	2,33	2,95	2,5	2,59	10.63
20	2,76	2,93	3,19	2,96	12.13
50	3,02	3,33	3,74	3,33	13.65
100	3,17	3,68	3,14	3,33	13.65
250	3,76	3,78	3,61	3,72	15.23
500	3,87	3,95	4,42	4,08	16.72
5 000	4,37	4,35	4,45	4,39	17.99
Σ	23,28	24,97	25,05	24,40	
Pearson	0,71	0,71	0,61		
Student T-test	0,14	0,14	0,14		

TABLE 9: *Dependence of average Marketing Vitality (MV) on number of employees*
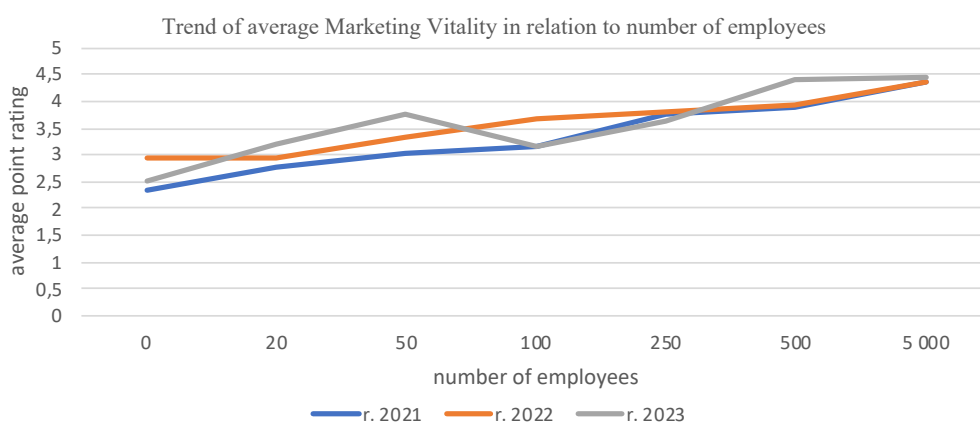Source: own processing, 2024

FIGURE 2: *Trend of average Marketing Vitality in relation to number of employees*
Source: own processing, 2024

H2 There is a statistically significant relationship between the assessed parameters and company size by number of employees. This hypothesis can be validated. Based on a calculation of the Pearson coefficient (0.71, 0.71, 0.61), there is a strong positive correlation. The dependence of Marketing Vitality on number of employees was unambiguously proven. The bigger the company, the more attention it devotes to marketing. From the calculated results it is clear that the value of Marketing Vitality starts to increase in the interval between 5 and 20 employees. It then increases up to the interval of 50-100 employees, at which point it stagnates in accordance with Parkinson's laws. From 250 employees onwards, these now constitute large enterprises, with a team of collaborating specialists with the ability to outsource individual marketing work to external vendors. For this reason, the values for Marketing Vitality once again start to increase.

H3 There is a statistically significant relationship between the assessed marketing vitality parameters and year the company was founded.

year the company was founded/ year of research	2021	2022	2023	sum of averages by year of establishment	% MV by year of establishment
Until 1990	3,5	3,57	3,28	**10,35**	**26.19**
1991 - 2000	3,12	3,33	3,16	9,61	24.32
2001 - 2010	2,91	3,21	3,47	9,59	24.27
2011 - 2020	2,93	3,17	3,87	9,97	25.23
Σ	12,46	13,28	13,78		
Pearson	0,09	0,28	0,08		
% share	31.53	33.60	34.87		
sum of surveys	39,52				

TABLE 10: *Dependence of average Marketing Vitality (MV) on year the company was founded*
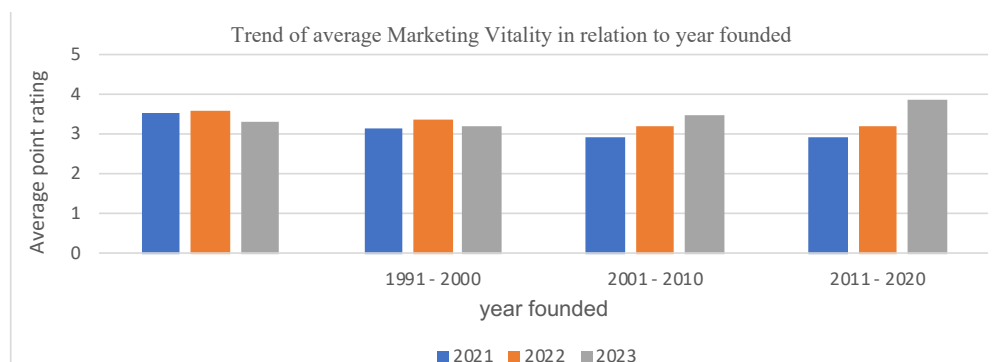Source: own processing, 2024

FIGURE 3: *Trend of average Marketing Vitality in relation to year founded*
Source: own processing, 2024

H3 There is a statistically significant relationship between the assessed parameters and the year the company was founded. According to the Pearson coefficient, it can be stated that the value of the correlation (0.09, 0.28, 0.08) can be considered a very weak positive correlation. The hypothesis cannot be refuted or validated. The results from the acquired data are too close. At the same time, the coefficient of variation comes out at 10%, so it is exactly the threshold value. Nonetheless, it appears that companies founded before 1990 are the best off in terms of the use of marketing tools and marketing itself. One possible explanation for this is that companies are continuously being created and dissolved. Only those with a good market position and capable management will survive. That is to say, the companies with the requisite managerial and marketing expertise. An interesting, though as yet unexplained result of the dependence studied is that, when the individual years are examined in detail, it appears that there is a 7-year period when marketing vitality reaches its highest values.

RQ3 addressed whether overall marketing vitality is related to other factors, such as business sector, company size by number of employees, and year founded. Based on the above calculations and the commentary on the hypotheses, it can be concluded that:

a) Marketing vitality is not dependent on the companies' main business sector, but on the individual approach of the individual companies to the use of the individual marketing tools. The differences found in the different years the surveys were conducted suggest that there may be trends and changes in MV in different years and sectors, but this could not be clearly demonstrated.

b) A dependence was proven for Marketing Vitality on number of employees. Marketing is almost non-existent in micro-enterprises with up to five employees. It begins to manifest in small businesses with 5-20 employees. And yet the highest level of marketing vitality is

achieved by large companies. To what extent this is due to ownership by foreign capital or the option to deploy the necessary capacities is debatable.

c) From the surveys conducted and the results evaluated, it appears that older companies have a higher level of marketing vitality. Although the results for newly established companies provide similar Marketing Vitality values, given the small number of companies surveyed that were founded between 2021 and 2023, these cannot be accepted as statistically significant. The results also suggest that there could be an improvement in Marketing Vitality for companies founded from 2011 through 2020.

Given that positive growth in external marketing communications was predicted and subsequently demonstrated, and building on the insights of the theoretical background in terms of the importance of communication in the online environment, researchers in 2023 sought answers to the following:

RQ4 addressed the issue of what specific trending online marketing tools the company is aware of. **RQ5** addressed the issue of what specific trending online marketing tools the company actively uses for marketing management.

With all open-ended questions, it was possible to list out several tools (e.g. social networks in general, then specifically Facebook, Twitter, etc.; web interfaces in general, then specifically websites, email, newsletters, etc.). The authors sorted the answers obtained based on frequency and similarity into the clusters Social network, Google, Seznam [Czech web portal and search engine], Web interface, Data storage, Team communication, Software, Artificial intelligence.

Tool	Known	Actually uses	Tool	Known	Actually uses	Tool	Known	Actually uses
Social networks in general	74	42	**Google in general**	56	10	**Seznam in general**	55	6
Facebook	49	30	Google analytics	28	12	Seznam search	12	4
Instagram	45	15	Google search	30	3	Seznam advertising	4	2
Youtube	32	10	Disk Google	12	2	Demand server (firmy.cz)	2	12
Linkedin	29	15	Google Tag Manager	3				
Twitter	18	3	Google Search Console (SEO)	2				
Tik Tok	10	2	Google My Business (google maps)	4	1			
Other	4	1	Google Calender	4	2			
			Google Adwords	2				

Tool	Known	Actually uses	Tool	Known	Actually uses	Tool	Known	Actually uses
Web interface in general	54	25	**Data storage** Cloud	20		**Team communication**	33	
website	32	70	Google Apps for Work	3		Microsoft Teams	14	14
e-mailing	44	75	T-cloud (T-mobile)	4	2	Google meet	9	10
e-shop	14	21	Master DC	2				
newsletter	6	4	One Drive	4	6			
podcast	16	2	Salesforce	1	2			
discussion forums	2	1	M365	2	4			
blog	6	1						
influencer	15	1						
Trip advisor, Heuréka (reviews)	4	2						
Mailforce (e-mail campaigns)	2							
Tool	**Known**	**Actually uses**	**Tool**	**Known**	**Actually uses**	**Tool**	**Known**	**Actually uses**
Software	16		**Artificial intelligence**	20				
Realman (realestate)	2	2	GPT, Textie, Baib	6	6			
MY FOX (booking)	2	1	Digiskills	3				
Pokladní software	3	3	Vaibe - graphics	2				
Helios, CRM, Pohoda, Sap, Trello, Business Manager, Typo3, Wordpress, Sklik, Caflou, Inviton	6	55	chatbot	10	4			

TABLE 11: *Knowledge and real-world use of online marketing tools*
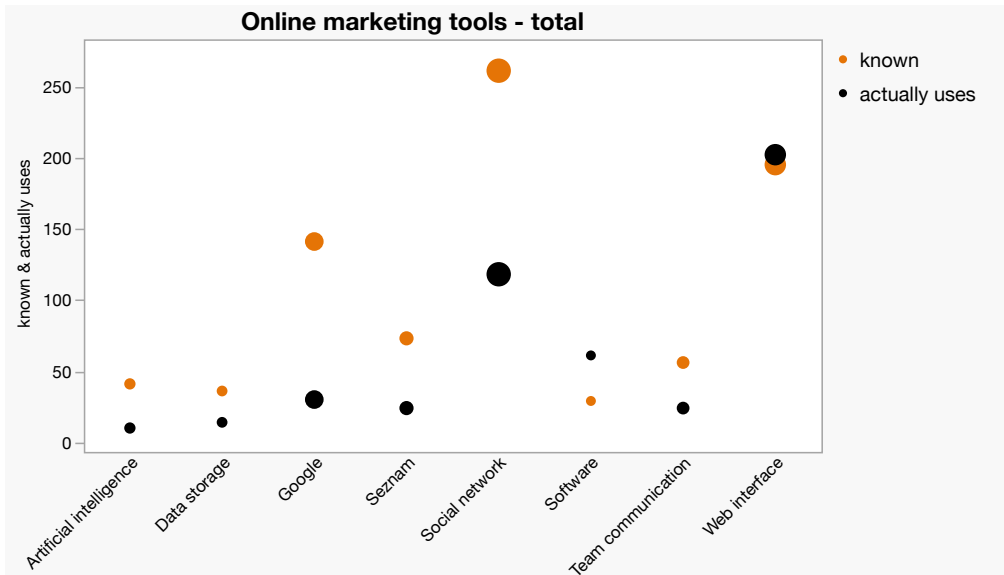Source: own processing, 2024

FIGURE 4: *Cluster analysis of familiarity with and actual use of online marketing tools – total*
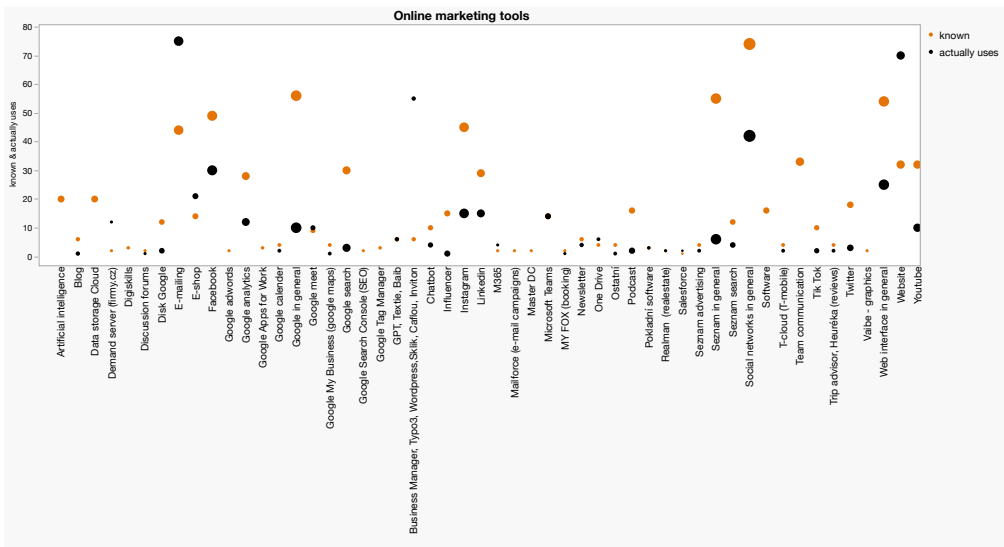Source: own processing, 2024

FIGURE 5: *Cluster analysis of familiarity with and actual use of online marketing tools – detail*
Source: own processing, 2024

RQ4 addressed the issue of what specific trending online marketing tools the company is aware of. Through the clusters created, it can be stated that the greatest familiarity is shown with the tools Social network, Web interface, and Google. The lowest familiarity was stated in the cluster of Software, Data storage, and Artificial intelligence (AI).

RQ5 addressed the issue of what specific trending online marketing tools the company actively uses for marketing management. Through the clusters created, it can be concluded that companies make the most use of the tools associated with the clusters of Web interface and Social network.

RQ6 Addressed the issue of what specific trending online marketing tools the company is actively planning to make use of by the year 2025 (beyond those presently in use). The respondents unanimously stated that they would focus on introducing and implementing trending online marketing tools between 2021 and 2023. In relation to social media, they mentioned the need for updates and regular communication, with 10 respondents planning to introduce new communications on Facebook, 4 on Instagram, 4 on YouTube, 4 on Linkedin, and 2 on Tiktok. 2 respondents are considering apps or software, tools for creating and sending emails and managing campaigns, and newsletters (Ecomail, Mailchimp, Hubspot). Demos and product presentations in 3D and virtual reality are being planned by 6 respondents. 7 respondents are considering communication on websites via Chatbots and only 2 respondents mentioned artificial intelligence (AI) without a specific application.

5 Discussion and Recommendations

In relation to the scope of teaching marketing management, it can be assumed that the basic marketing topics include those mentioned, for example, by Kotler and Levy, 1969; Daymon and Holloway, 2011; Casotti, 2019; Lahtinen et al., 2020; Pecot et al., 2018, and other scholars. What is changing, however, are modern technologies and software applications that enable effective assessment of big data, personalized results, and guided implementation of omnichannel marketing. Artificial intelligence (AI) tools or applications are also likely to become part of teaching. According to Knihová (2024), artificial intelligence – when applied ethically, sensitively, and conscientiously – leads to flowering of human creativity by eliminating mundane tasks, freeing people's hands for more creative activities. It can therefore be recommended that modern technology and software applications be incorporated into teaching.

Given the turbulent changes in the market, the changing needs of customers, the demands of companies in relation to the digital skills of graduates, and rapid developments in the field of AI, regular updates of learning materials and resources can be recommended. Students should always be informed about the newest trends and innovations, which is fully in line with the research of Shen (2023) and Tsai and Yao (2023).

The integration of marketing education into university curricula has significant implications for real-world practice. Recent academic literature highlights various elements of a marketing curriculum that can directly impact marketing outcomes in practice. Experiential learning and the Sustainable Development Goals – Current studies highlight the importance of experiential learning in marketing education, especially in the context of the integration of the SDGs. Satyam and Aithal (2024) explore how incorporating ESG into marketing management teaching content through experiential projects can improve students' understanding of real-world marketing challenges, while promoting sustainability. This approach not only equips students with practical skills, but also allows them to align their knowledge with global sustainability initiatives. This, in turn, will increase the importance of marketing education for current marketing and business practices in the corporate environment. Similarly, Tomasella et al. (2024) discuss the broader implications of incorporating an ESG strategy into college marketing curricula, suggesting that such integration promotes a more socially responsible mindset among future marketers.

The implementation of problem-based learning in marketing education has been shown to significantly improve students' skills involving critical thinking and decision-making based on evaluating the effectiveness of different options for solving a marketing problem. Rosário and Dias (2024) provide a comprehensive overview of how problem-based learning can bridge the gap between theoretical knowledge and practical application in marketing, how it can prepare students for real-world challenges. This pedagogical approach encourages students to engage with real-life marketing problems, fostering a deeper understanding of market dynamics and consumer behavior, which are crucial for effective marketing strategies.

The integration of marketing analytics through trending technologies into curricula is increasingly recognized as essential for aligning learning outcomes with the needs of the real market. Keiper et al. (2024) highlight the existing education gap in marketing analytics tools, noting that teaching is slowly adapting to firms' demand for knowledge about big data-driven decision-making. By incorporating digital analytics into their marketing curriculum, universities can better prepare students to use data in creating effective marketing strategies, ultimately leading to improved marketing performance in their future careers. In addition, the role of digital analytics in improving marketing results is underscored by the findings of studies that highlight the need to justify marketing spending in terms of measurable ROI.

Kamkankaew and Thanitbenjasith (2023) discuss the integration of macromarketing principles and circular economy concepts into marketing education in Thailand, highlighting the benefits of preparing students to address the current challenges of natural resource depletion and sustainability. This shift in the curriculum should improve students' understanding in relation to sustainable strategies, but also equip them with the knowledge to implement these principles in real-world conditions of different business sectors.

Current literature emphasizes the importance of integrating practical elements into marketing education in order to increase its relevance and applicability in real business contexts. By focusing on experiential learning, analytics, sustainability, and CSR, universities can better prepare students for the challenges of modern marketing, ultimately leading to improved marketing outcomes in their professional careers.

In relation to the assessment of marketing vitality, it can be concluded, in line with Oduro and Mensah-Williams (2023), that the use of the tools of the marketing mix and capacities for marketing communications, distribution channel management, and product development significantly and positively influence marketing performance – as demonstrated by the highest average assessments of this tool. The findings of Belas et al. (2022) may be considered in terms of the use of the tools of the marketing mix in the individual business sectors. This is due to the variety of market segments (B2B, B2C) that individual companies serve. The above study did not confirm a correlation between business sector and overall marketing vitality. The differences point to a need for individual setup of marketing concepts in companies operating in different industries.

In contrast, it can be agreed that there is an influence of the ability to implement online marketing on the performance of SMEs as per Lubis et al. (2023). Our research showed an increasing tendency and knowledge of the use of online marketing tools to increase its effectiveness.

The limitations of our research can include the willingness of respondents to participate in the research (business owners during 2020-2023 were dealing more with existential problems in relation to the need to respond to current threatening macroeconomic factors) and the fact that the research mostly involved representatives of small and medium-sized companies. It can be assumed that if more large companies or multinational corporations operating in the Czech Republic had been represented in the sample of respondents, their marketing vitality would show a higher average score. In order to realistically demonstrate the influence of marketing vitality on the economic efficiency of a company, it would be advisable also to correlate the results with the financial indicators of the companies (financial statements). And yet due to their size, most respondents are not required to disclose these results annually under the Accounting Act. If the effect of marketing vitality on economic indicators were to be demonstrated, then the study would have to focus on companies meeting the minimum **borderline values, which have been set as follows**: net assets: CZK 40 million; annual turnover: CZK 80 million; average number of employees: 50.

Another limitation is the rapid development that is currently taking place in the implementation of trending online marketing tools. For this reason, we attempted to assess the knowledge, practical use, and planned implementation of online marketing tools in corporate practice. It turned out that even owners of SMEs are familiar with the trending tools, but do not always

apply them in real-world practice. They encounter obstacles in terms of lack of confidence, lack of willingness, the time demands of implementing the change, and the anticipated financial costs in relation to demonstrating the impact on customer satisfaction or sales. The fact that the study was conducted only in the Czech Republic is also a limitation. In the future it would be interesting to compare marketing vitality at least among the V4 countries. Another limitation is the fact that the responses are self-assessments of owners or managers that may or may not correspond to real-world practice.

In order to ensure that the content of teaching is in line with the actual needs of the market and business practice, it may be recommended that new opportunities be sought for intensive cooperation between universities and corporate partners and experts from various institutions, marketing agencies, marketing consultants, etc. Through partnerships, universities and commercial companies can share their resources, knowledge, and practical experience confirmed by research by Yessimova et al. (2023).

6 Conclusion

In the course of developing this study and in searching for and processing scholarly publications and resources, the authors encountered many innovative approaches and techniques in the field of marketing management, teaching, and the teaching approaches of the universities examined, especially in light of the growing importance of technologies and applications using AI. These technologies offer a number of opportunities for making teaching and marketing management more effective, and for more successful implementation of business strategies, marketing research, and tools of the marketing mix, based on a more accurate and detailed understanding of the needs, requirements, expectations, and behavior of customers and companies on a globalized market.

It can be assumed that the application of these innovations will have a direct impact on market management, not only through more effective and targeted communication with customers, but also through the ability of graduates to actively use new technological tools. These will help companies in the process of rapidly adapting to changing market conditions and becoming more resilient, competitive, and sustainable. The overall level of human resources is not linked to growth rates, but marketing skills are. It can also be assumed that SMEs could make significant and rapid progress if they invest in all-round human capital, especially in marketing and in the capabilities of employees to use trending technologies.

Universities face a monumental task in guiding and preparing future professionals in this dynamically changing environment. Their key role is not only to provide students with knowledge, but also to equip them with the skills and tools needed for the real world of business practice. It is the responsibility of educators to prepare the incoming generation for the challenges and opportunities that await them in the future. This can be aided by the outputs of further research into the application of trending marketing tools in relation to business performance, customer loyalty, brand awareness, social responsibility, etc. not only in the business environment of the Czech Republic. There is the possibility of cooperation with other, especially foreign universities, e.g. universities from the V4 countries. It will be interesting to explore whether AI applications will fundamentally change the way marketing is implemented in corporate practice (Kumar et al., 2019) and taught in tertiary education. It also raises the question of which controlling tools will enable effective management of marketing.

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Gatekeeping in a News Agency – A Way of Influencing News Coverage Across Media

ABSTRACT

General media literacy also includes knowledge about the media system and the functioning of media institutions, including news agencies. The article therefore takes a deeper look at the understanding of the gatekeeping process and the prioritization of messages in current agency practice based on theoretical background and empirical research. Knowledge about the way agency reports are produced, which demonstrably influences news content across media institutions, is necessary for a better critical view and understanding of media production. Quantitative-qualitative research was carried out at the Press Agency of the Slovak Republic, where we used a quantitative content analysis to examine 1,373 articles published as part of domestic news in the period from 3/12/2022 to 3/3/2023. The qualitative part of the research included in-depth interviews with the editors of the news agency. We focused on the criteria for selecting news for the news and the decision-making processes of media workers. Focusing on current and important topics, dominantly aimed at the entire territory of the Slovak Republic, can be considered as significant results. If the topic affects all the inhabitants of the country, it has a significantly higher priority than a message focused only on a certain group, without considering the topic. At the same time, editors also decide what and how to publish based on their own experiences or their own interest in the topic, which partially affects the news service itself.

1 Position of a News Agency in Media Environment and Its Importance for Media Literacy

The media production of individual media currently affects the entire society. In today's online world, we are overwhelmed with a lot of information every day, from which we only read a certain part. Media workers decide what reaches us and what does not, what our attention should be paid to, what should be discussed within society, or even how we should evaluate certain information. At that moment, we unknowingly become consumers of selected information of specific media workers. Of course, it is not possible for the media to report on everything – for financial reasons, lack of manpower or limited media space in the case of traditional media. From this point of view, it is important to know what factors influence editors in the selection of information and why some news reach us before others. We consider this knowledge to be one of the important areas of media literacy. The amount of news and information that reaches us every day is constantly increasing, and knowing how and who decides what gets to us and what does not can help us, from a critical thinking point of view, defend against the manipulation of public opinion through media discourse. If we know how things work, we know how to work with them. If we do not have this knowledge, those things know how to work with us. In our article, we deal with the subject of news that should bring us the most important information from home and from the world and that also should help navigate us in our everyday lives and make qualified and, especially, well-founded decisions.

1.1 Agenda Setting and Gatekeeping

Processing and presentation of individual information is significant in reporting. Kačincová Predmerská (2017) points out that "it is always important to know which information is relevant and beneficial to the public, and which only fills the pages of newspapers and magazines with entertaining stimuli without being of practical benefit in any way" (Kačincová Predmerská, 2017, p. 27)[1]. This means that every media worker is responsible for the informative value of an individual report. Those journalists who do not have sufficient experience and do not know how to work with relevant sources reach for easily available or sometimes superficial information that covers only a very small part of objective reality.

Every day, we hear, see and read in the media about facts that happened not only at home, but also in the world. The information is carefully sorted and processed based on many factors that editors themselves determine. By selecting and publishing specific news, media workers influence what we consider to be important or essential. This is what we call agenda setting (McCombs, 2009). In this way, the recipient is indirectly shown which topics are "important" in society and which should be given our attention. In this way, newsrooms and journalists themselves influence the atmosphere in society and public discourse. The media deliberately select information that should be attractive to recipients (Valenzuela, 2019). At the same time, Višňovský and Baláž (2012) point out that the media not only raise topics, but also offer their own interpretations of reality. As a result, the audience can take over the attitudes and opinions of individual media. The media offer certain frames into which the presented information is inserted, thereby influencing the public. Welbers et al. (2016) have similar thoughts on this topic: "Gatekeepers have a strong influence on society's perception of relevant developments and the interpretation of these developments" (p. 317). The issue of agenda setting is, of course,

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[1] The text of the quotation in the original language: „Vždy je však smerodajné, ktoré informácie sú pre verejnosť relevantné a prinášajú jej úžitok a ktoré len zapĺňajú stránky novín a časopisov zábavnými podnetmi bez toho, aby boli akýmkoľvek spôsobom prakticky prínosné."

not new in the academic community. It is one of the frequently discussed topics and we find interest in it both in older and contemporary scientific publications (for example, Ebring et al., 1980; Cook et al., 1983; Glynn, 2005; Boydston, 2013; Greguš & Mináriková, 2016; Višňovský & Radošinská, 2018; Čábyová et al., 2024).

The agenda setting concept is closely related to the gatekeeping process. This is a way of working in the newsroom, the result of which is the decision which information will be processed and published in the form of reports and which, on the other hand, will not receive any media space. Of the amount of information that reaches journalists, it is humanly possible to process only a part of it, and therefore, there must be a certain decision-making mechanism, which we call gatekeeping. It is influenced by information sources of media workers, the functioning of specific newsrooms, the target group of the media, or the personal preferences of the journalist. The choice thus depends not only on the journalist's personal setting, such as his experience or opinion (Greguš, 2018), but also on the editorial routine or external pressures of economic groups and the owner of the media (Greguš & Višňovský, 2020). Due to the constant acceleration of the online space and due to the ubiquitous digitization, there is currently an overflow of news and information. It is the ubiquity of a huge amount of news and their easy availability on the Internet that has caused the traditional insight into the gatekeeping process to be no longer completely sufficient. Currently, more and more researchers show that traditional gatekeepers share their position with algorithms on social networks or, in addition to them, with users themselves (Wallace, 2017; Karlsson et al., 2022; Salonen & Laaksonen, 2023; Scheffauer et al., 2024). In this way, we also become gatekeepers who choose from previously published news and information. And we choose those that we will trust and that will shape us. Despite the modern insight into gatekeeping, there is still one specific type of media institution that plays a significant role in the creation of many news reports across all media – news agency.

1.2 Agency News and Its Influence on News Production

Agency news has an irreplaceable role within the media. It belongs among the main journalists' sources (Hlavčáková, 2001; Šmíd & Trunečková, 2009; van der Meer et al., 2016; Greguš, 2018), while agencies' influence on media production is significant, which can influence the public opinion of the entire country (Vrabec & Zachar, 2018). For example, Greguš and Višňovský (2020) examined the influence of agency news on television news in the context of the Slovak Republic, while, for example, Welbers et al. (2016) and Boumans et al. (2018) focused on the impact of agency news on the print and online media in the Netherlands. Although journalists and editors choose what they will and will not report on from the agency news service, how they will process individual information or whether they will add any additional facts to agency reports. According to Welbers et al. (2016), news agencies greatly influence the media agenda that reaches people. The authors also add that relying purely on an agency can endanger the quality of the news itself, as agencies do not always bring verified information. At the same time, this phenomenon can affect the diversity of news content, since "in the Netherlands, where one news agency is dominant and used by almost all major newspapers, diversity could indeed be in peril" (p. 317). According to Boumans et al. (2018), online articles in the Netherlands are so dependent on agency news reports that up to 75% of all content is sourced by an agency, with a large amount of it being published with little or no modification from the version published by the news agency. At the same time, agency messages should be considered only basic material on a specific topic, which needs to be adjusted or edited (Vrabec & Zachar, 2018). The situation in Slovakia is also like the one in the Netherlands. Although there are two news agencies operating here, the public Press Agency of the Slovak Republic (TASR) has a more significant position in media production than the Slovak Press Agency (SITA). That has been confirmed, for example, in the case of the most read online portals in Slovakia, by several

studies (see, Greguš & Magurová, 2021; Greguš & Šulková, 2022). Although we are aware of the influence news agencies have on news production in general, according to van der Meer et al. (2016) there is "relatively little empirical research dedicated to demonstrating the influence of news agencies" (p. 1109).

As mentioned above, TASR has an irreplaceable role and position in the Slovak media environment and reports from its editors can be found in all types of media – print, online, radio and television. Its main task is to inform the public about important and interesting events in Slovakia and around the world. The creation of articles should meet the basic agency requirements, such as verified information, objectivity, impartiality, providing space to all concerned parties, etc. In addition to its own content, TASR currently receives services in the form of text, videos and photos from several global agencies, while these contents are further provided to subscribers. The clients of TASR are many relevant media in Slovak republic (TASR, n.d.). It means that they can use news information on their websites, in periodicals or on radio and television broadcasting. TASR news reports are mainly intended for journalists and editors for further processing. However, the agency also publishes them on its own page Teraz.sk. There is also cooperation between TASR and educational institutions in the Slovak Republic. Primary and secondary schools as well as universities have free access to TASR news services. As Vrabec and Zachar (2018) add, "schools can use this information within media education, civic education or extracurricular activities, whether in the creation of school magazines, school newspapers, or when carrying out other extracurricular activities" (p. 46). Thus, media production of TASR does not only influence the media and ordinary recipients, but is also involved in the educational process, which to some extent influences media literacy of children and youth in the Slovak Republic. It is also necessary to specify that, according to the results of the research by Vrabec and Zachar (2018), "there are still quite a number of schools that do not use this valuable service in their educational activities at all" (p. 43). Such projects, where students meet, for example, with media practice, are suitable for improving media literacy. There are even studies that dealt with the possibilities showing the gatekeeping process or the functioning of agenda setting to actual students (see, Gross, 2020).

We mentioned above that agencies influence news production. Compared to other agencies, such as Reuters or SITA, TASR has a specific way of labelling the produced news. Like the Czech Press Office in the Czech Republic (Šmíd & Trunečková, 2009), it uses news prioritization within individual news services. Although the reports are published chronologically, each of them is marked with a specific priority given to it by the TASR employees themselves, while it is also up to them to decide in which journalistic genre the information will be processed. According to Hlavčáková (2001), there is a connection between the priority of a report and the genre it is written in. In total, she describes five priorities. According to her, number 1 denotes the urgent message, which informs about an extremely important event. It does not contain the title, domicile, date or agency brand. It is characterized by its conciseness, or it is highlighted from other messages with capital letters throughout its length. It is just a short piece of information that immediately needs to go "to the world". According to Hlavčáková (2001), the second priority is flash message. The third is the current or brief message, the fourth priority is the classic, extended message and the fifth is the so-called everlasting message. These do not belong to frequent content and are mainly announcements, texts of documents and speeches, daily reports or summaries. According to Hlavčáková (2001), priority numbers are assigned to individual genres. Determining the priority helps the media to better navigate themselves in the flood of news, i.e., it tells them what not to miss and what to notice first. In this way, the editors are influenced, as a highlighted or a higher priority message compared to the others "dazzles" the editor, while it can overshadow another, similarly important message, that TASR itself did not mark as more important. Since determining genres and priorities belongs to the competencies of TASR media workers and is subject to their choices, these factors can be included in the gatekeeping process. Therefore, the explanation and definition of priorities

in a news agency is part of the necessary theoretical background for our research. Based on theory, we know that TASR determines priority using a scale from one to five, but media practice is somewhat different. Greguš and Višňovský (2020) pointed out that the priority with the number 5 is the lowest and indicates mainly overview materials or summaries and daily plans. Classic, extended messages are marked with the priority of 4 or 3, while a message with priority 3 is more important and can be in some cases processed also as a brief message. The authors add that a message with priority 2 indicates extremely important information, which is also color-coded in the agency's service. At the same time, messages with priority 1 are not used in agency news. Nevertheless, we can confirm from our own experience that the editorial system also offers this option. The priority must be entered by media workers in TASR before the news is published.

2 Methodology

The aim of this study is a deeper look at the understanding of the gatekeeping process and the prioritization of messages in current agency practice based on theoretical background and empirical research. Knowledge about the way agency messages are produced, which demonstrably influence news content across media institutions, is necessary for a better critical view and understanding of media production. The selection of news and prioritization of individual information that is published and, therefore, opens public discourse on the topic, is very strict. Nevertheless, this selection is partially influenced by the subjective feeling of the journalist. Through empirical research, we found out which topics are prioritized in the Press Agency of the Slovak Republic and what, according to their editors, affects the processing of information, since prioritization ultimately affects the Slovak media environment and TASR subscribers. In the empirical part, we investigated which news and topics editors choose and why they choose them. We have also identified which decisive processes they are subject to, and which influence them.

Thus, we have performed quantitative-qualitative research which was carried out at the Press Agency of the Slovak Republic (TASR). The research consisted of two interconnected parts – quantitative research of news agency reports; and qualitative in-depth interviews with editors of TASR. We focused on the criteria for selecting news for the domestic news service and the decision-making processes of media workers.

The Press Agency of the Slovak Republic (TASR) was selected for the examination due to its almost monopole position in Slovak media environment. There are just two news agencies in the Slovak Republic. While TASR is a public institution, the other one, Slovak Press Agency (SITA), is a commercial company. Their position as the media's news source is also quite different. News service of TASR is commonly used throughout the Slovak media production, but the frequency of news reports from SITA is none or very limited (Greguš & Višňovský, 2020; Greguš & Magurová, 2021; Greguš & Šulková, 2022; etc.). Therefore, TASR has much stronger impact on media production in the Slovak Republic than SITA, which makes it a suitable research sample.

In the quantitative part of our research, we used a quantitative content analysis of domestic news service of TASR. We examined 1,373 news reports in total, which were published as part of domestic news in the period from 3/12/2022 to 3/3/2023. These reports were published in 14 individual days which we selected based on the technique of constructed week (see, for example, Sedláková, 2014; Riffle et al., 2019). In Figure 1 you can see the distribution of the news throughout the examined period.
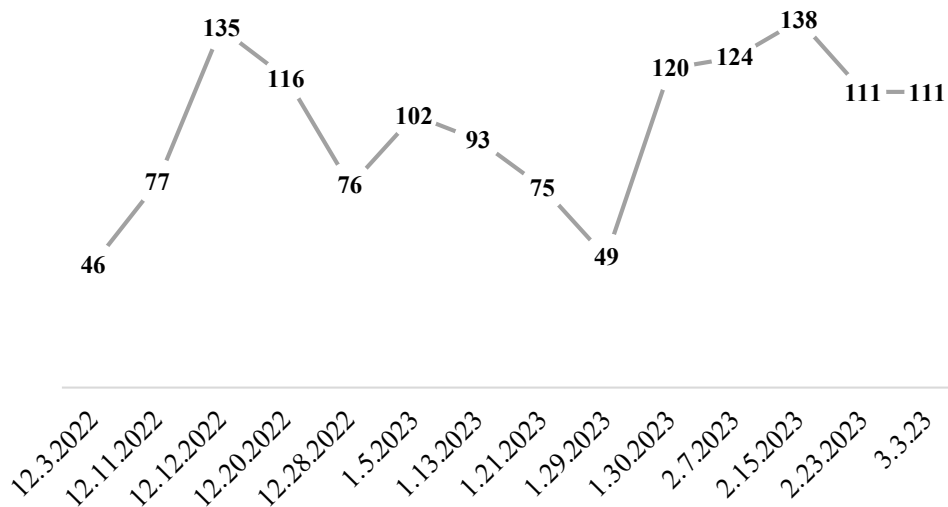
Within these reports, we focused on several variables – date of publishing, topic, priority and news genre. These variables did not need to be defined by us since TASR estimates these characteristics in news reports. Therefore, there was no need to determine intercoder reliability either. Every variable was just transformed into code based on the coding book while there was no case of coding misinterpretation. The variables could obtain following values:

- Topic – military and civil defence (1); church and religious groups (2); documentation (3); transport (4); disasters (5); culture and art (6); media (7); local government (8); employment and social issues (9); plan and daily overviews (10); weather (11); police reports (12); politics (13); news summaries (14); courts and prosecutor's office (15); tourism (16); science and research (17); education (18); interests and curiosities (19); healthcare (20); and environment (21).
- Priority – priority 2 (2); priority 3 (3); priority 4 (4); and priority 5 (5).
- News genre – flash message – consists of one or two sentences and covers basic information about a very important current event or phenomenon, usually, it is followed by other types of messages on the same topic (1); brief message – consists of several sentences and covers an important current event or phenomenon (2); extended message – is a long report of an event or a phenomenon which can or does not have to be current or important and, besides the basic information, it also consists of background information on the topic (3), and overview material – usually information summaries in a form of a list, it is used as an overview of past or future events (4).

The qualitative part of the research included in-depth interviews with five editors of TASR. The interviews took place in April 2023. The editor's decision-making processes as well as the influence of external and internal factors are subjective and it is not possible to predict the results in advance. Thanks to in-depth interviews, we had the opportunity to gain a better overview and understand the decisive processes that media workers face every day. In addition to the precisely written questions, we also asked media workers additional questions that emerged within the interview. The research sample consisted of experienced domestic news editors, who were university-educated people with several years of experience in the media environment. Domestic news editors can influence other media production by prioritizing specific news, and, therefore, we considered them a qualified research sample.

As part of the methodology, we also formulated three research questions:

RQ1: What topics are given higher priority in TASR's domestic news and which topics are published as flash and brief?

RQ2: What factors influence editors in their decision-making process about what information to process and in what genre?

RQ3: Why do media workers evaluate certain topic with higher priority?

3 Results

In total, we analysed 1,373 articles in TASR's domestic news service. In the examined period, there were two reports of the journalistic flash genre, 21 reports of the brief type, 1,143 classic reports and 207 cases of review material. When evaluating individual days, we found that TASR editors publish more news during the days of the working week. A significant decrease in the number of news can be seen during the days over the weekend or between holidays. We know from media practice that during these days there are not so many briefings or events that are covered by the media. The working days of the week are at about the same level and exceed 100 reports per day. More news which are given a higher priority or a higher priority news types are also issued during the week.

RQ1: What topics are given higher priority in TASR's domestic news and which topics are published as flash and brief?

Graph 2 shows the number of reports divided according to the priority assigned to the news in TASR. Priority 2, i.e., extremely important information, occurred in two messages during the monitored period. Priority 3, which points to important information, was found at 70 reports. Priority 4 was expected for the largest number of contributions, at 1,128. We can see the mentioned priority for most of the reports in the TASR domestic news service. The second largest representation belongs to the news with priority 5, i.e., 173. These are reports that bring overview material, announcements or weather to service subscribers. Therefore, they do not provide information that is further published on other websites.
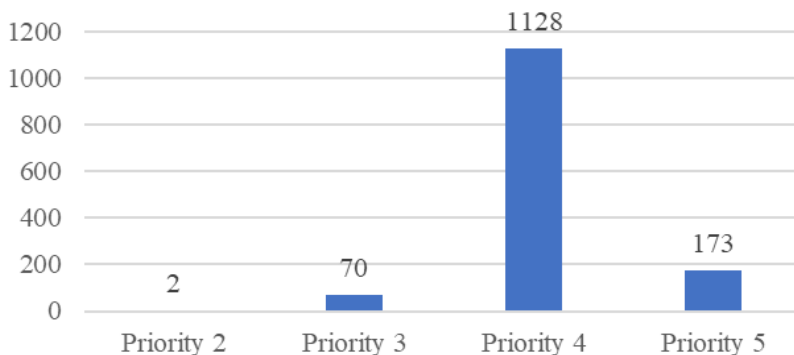

FIGURE 2: *Number of reports by priorities*
Source: own processing, 2024

The priority is partly linked to the type of message. When processing information, media workers choose from among the four types of report priority that we defined above. We found a flash message twice, as well as priority 2. Priority 3 is commonly connected to brief message, but the information with this priority does not have to be in a brief format. Important information can be processed as an extended report as well. This type of reports occurred most often in TASR's domestic news service, in total 1,144 times, while brief news only occured 21 times.
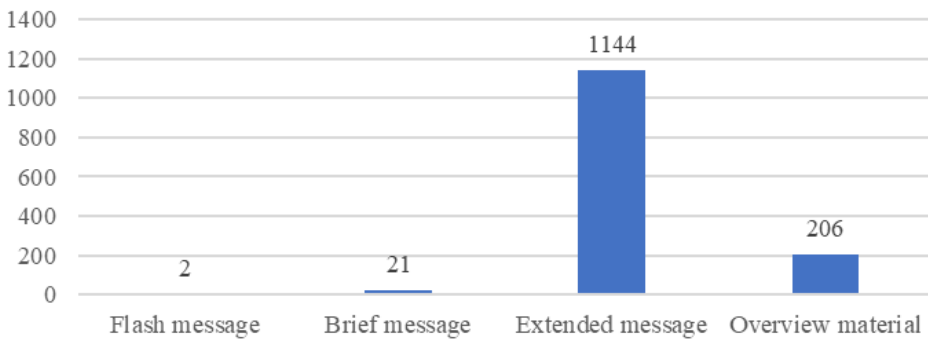
FIGURE 3: *Number of reports during each type of news*
Source: own processing, 2024

For a better overview, we have also created a comparison of all reports in individual topics during the monitored period. It shows which topics appeared most often in TASR's domestic news service. In the total number of reports, the most frequent topic was local government (257 messages), closely followed by politics (223 messages). Topics of police reports and healthcare exceeded the 100-report line. Even though the topic "plans and daily overviews" also crossed this borderline, as we mentioned above, these are reports that supplement the domestic service and are not made by the editors. Conversely, the least represented topics are science and research (5), interests and curiosities (6), and media (16). Not even 20 reports covered topics related to church and religious groups or military and civil defence.
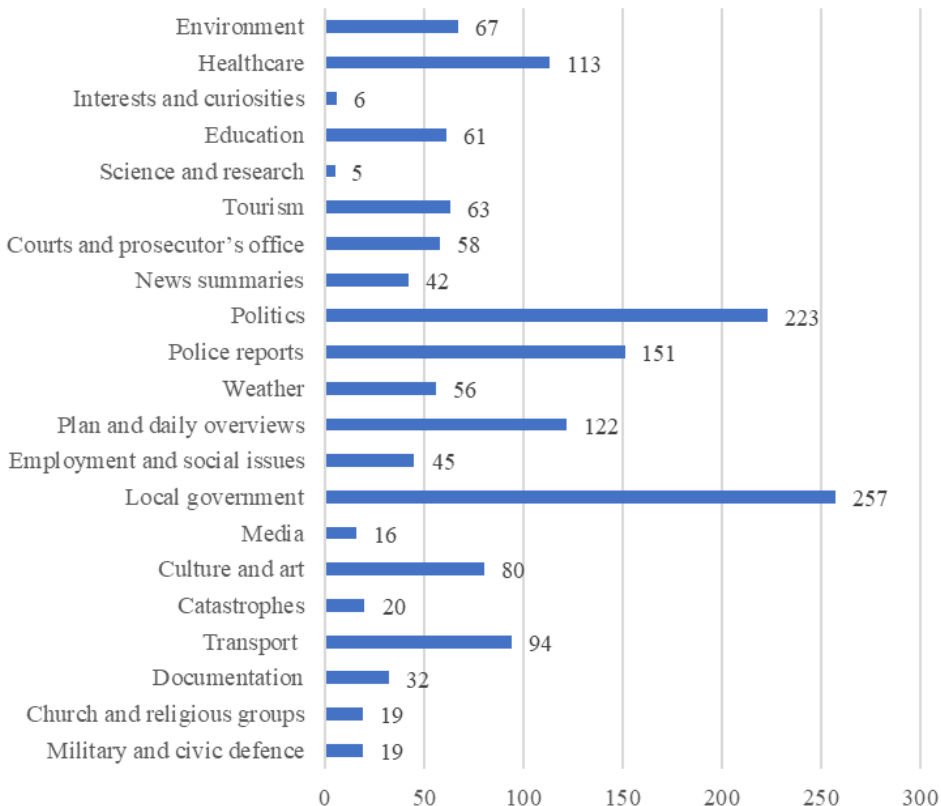

FIGURE 4: *Number of reports in individual topics*
Source: own processing, 2024

In Figure 5, we can see the number of reports in individual topics based on priority. Editors have a choice of 21 topics when adding information to the editorial system. We have defined them above. It is important to mention that some messages can be included in several topics at the same time. Priority 2 is seen twice for politics and once for healthcare. Based on this point of view, these topics were given the highest priority during the days under examination. News with priority 3 were found in politics again, occurring 17 times, followed by transport with 14 occurrences and police reports with 13 occurrences. A significantly higher number of reports in priority 4 covered topics related to local government (248 reports) and politics (204 reports), followed by police reports (138), healthcare (103), then transport, and culture and art (each had 80 reports). News with a political theme dominated in priorities 2 and 3 and. at the same time, it is the second most frequent topic in priority 4. Priority 5 occurred in three topics, namely in plans and daily overviews, weather and news summaries. These are materials that provide information to the service subscribers, even though they do not publish it further. Based on media practice, we know that most often they are not even made by individual editors.
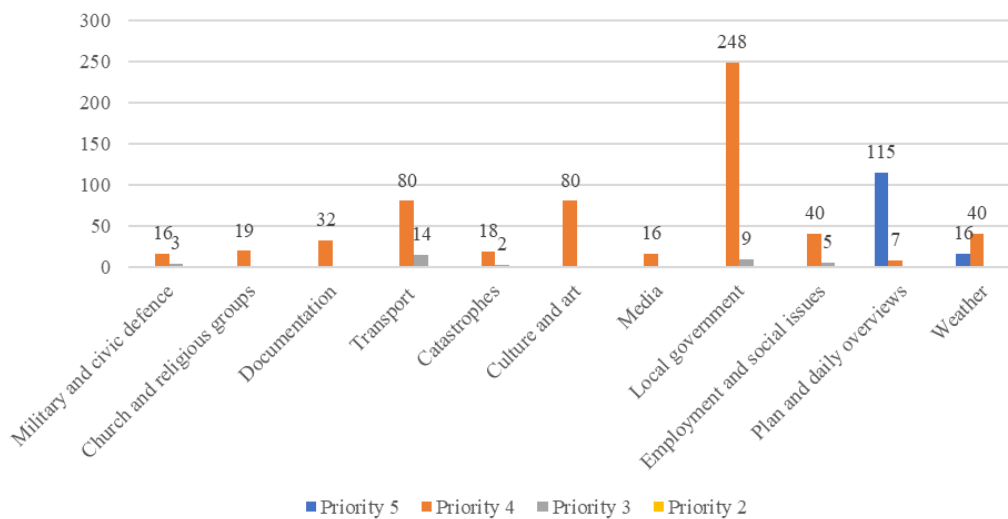

FIGURE 5: *Number of posts in individual topics based on priority – part 1*
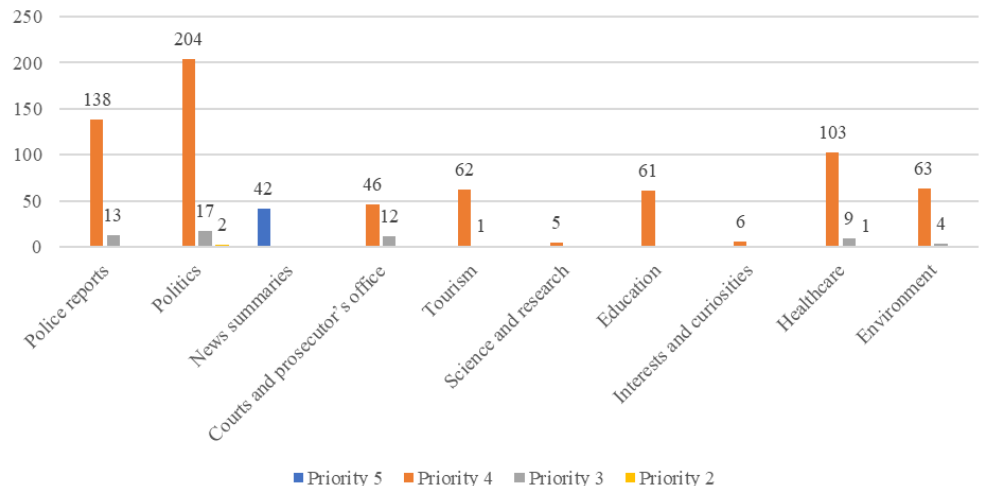Source: own processing, 2024

FIGURE 6: *Number of posts in individual topics based on priority – part 2*
Source: own processing, 2024

At the same time, we found out that the method of processing news in the form of flash message occurred twice as a report with a political theme and once within the topic of healthcare. Brief news was most used within politics (5 times) and we found the same number of occurrences for the topic "courts and prosecutor's office". Three reports in the form of brief news also covered the topics of transport and police reports. Extended messages were most often recorded in local government. At the same time, they were found in all topics except documentation and plans and daily overviews. Overview material is found within the topics of "documentation", "plans and daily overviews", "weather", and "news summaries".

To answer our research question more precisely, we set an average priority value for individual topics, rounded to 6 decimal places. The topic with the lowest priority, i.e., in this sense, the most important topic is courts and prosecutor's office. With priority 3, it occurred in the research material 12 times, and in priority 4, we noted it 46 times. As a type of brief news, this topic occurred 5 times and as an extended news 53 times. The second topic with the lowest average priority value is military and civil defence, and the third is transport.

However, it is important to draw attention to the position of politics in domestic news service. With the average priority, this topic ended up in sixth place, however, if we were to look at the individual numbers within priorities 2 and 3, we would see its primacy in these areas. Table 1 below offers a better overview of the number of reports in individual topics and priorities. If we look at the individual numbers of reports in priorities, we can say that priority 2 occurred most often in politics, followed by healthcare. For priority 3, we confirmed that editors consider politics to be the most important topic, with 17 reports. The second one is transport, with the 14 reports, and the third are police reports with 13 reports. However, the average value of the priority of politics is significantly influenced by its frequency within the published reports in priority 4.

	Priority 2	Priority 3	Priority 4	Priority 5	Average
Military and civic defence		3	16		**3.842105**
Church and religious groups			19		**4**
Documentation			32		**4**
Transport		14	80		**3.851064**
Catastrophes		2	18		**3.9**
Culture and art			80		**4**
Media			16		**4**
Local government		9	248		**3.964981**
Employment and social issues		5	40		**3.888889**
Plan and daily overviews			7	115	**4.942623**
Weather			40	16	**4.285714**
Police reports		13	138		**3.913907**
Politics	2	17	204		**3.90583**
News summaries				42	**5**
Courts and prosecutor's office		12	46		**3.793103**
Tourism		1	62		**3.984127**
Science and research			5		**4**
Education			61		**4**
Interests and curiosities			6		**4**
Healthcare	1	9	103		**3.902655**
Environment		4	63		**3.940299**

TABLE 1: *Average priority value in individual topics*
Source: own processing, 2024

Via the content analysis, we found out which topics are treated as a priority in the editorial office, and we followed up on the results with in-depth interviews. They focused on the criteria for selecting news for domestic news coverage and the decision-making processes of TASR media workers. The research sample consisted of five editors who actively worked in the domestic news service of TASR during the examined period. We know from media practice that each editor is primarily in charge of a specific topic. However, at the same time, during the month, everyone works on the so-called "booth", where they process and follow the most current events and information across various topics. For the diversity of responses, we have chosen editors from a variety of topics and covered the topics that occur most often in domestic news service and are treated with the highest priority based on the quantitative part of our research. Questioned editors were from the field of healthcare, courts and prosecutor's office, local government, and politics. Respondents wished to be anonymized for research purposes.

RQ2: What factors influence editors in their decision-making process about what information to process and in what genre?

Based on the research results, we can divide the factors into subjective and objective. Among the objective ones we can include public interest in the topic, currentness, and the public nature of TASR. Currentness was mainly perceived by the editors as the freshness and newness of the information. An important factor for a publication of information is, for example, that the news captures an event that is currently happening and must reach wider population as soon as possible. As an example they mentioned a disaster or a traffic restriction or an important political statement. They also pointed out that information about the three highest constitutional officials of the Slovak Republic is processed with higher priority than some news about an unclassified member of the National Council of the Slovak Republic. Therefore, information that is timeless does not have to be processed immediately and can be published later. The factor "nature of the media" can be understood as the position of TASR in the Slovak media system that is perceived by the editors and thus, they feel the importance and a certain responsibility in their work, as the agency's news reaches the public and is processed by other clients and national or local media. At the same time, they must maintain all the rules of agency reporting during their work, such as truthfulness of information, impartiality, provision of the same space to affected parties, relevance of information, non-promotion of political or private entities, etc. The respondents also stated that it is important that basic and complete information is provided in a timely and concise manner in reports. In this part of interviews, the editors also completely ruled out any influence from the external environment in the process of selecting news. This process is purely in the hands of the editors and the editorial team itself, and the authorization process for interviews, for example, is also part of it.

Among the subjective factors, based on the results of the interviews, we can mention past work experience, thanks to which the editors better evaluate the priority of some information as well as its importance for publication. The general overview and inner feeling for what is happening in society also influence the editors in deciding whether to process the information or not. Next subjective factor is the personal interest of the editors in the processed topic, or their orientation and outlook in the issue they are solving. We find this factor of quite significant nature in the gatekeeping process. All respondents agreed on this factor when choosing topics. One of the respondents even gave an example that was directly related to his private life. He stated that he had had a problem with an eating disorder in the past and was therefore trying to give it space and raise awareness in this direction. On the other hand, he immediately pointed out that even in such cases, the editors must maintain relevance of facts and the processed topic must have an impact and benefit for a society.

RQ3: Why do media workers evaluate certain topics with higher priority?

We also confronted the respondents with the results of the quantitative part of our research. According to the interviewees, the most important criterion for prioritizing reports from politics or courts and the prosecutor's office is the currentness of the information and its impact on the entire society. If an important event happens, it is logically necessary to cover it immediately and other topics take a back seat. That is why the mentioned topics are treated with higher priority, since they affect the entire population in Slovakia, not just a certain group or class of the population. The information in the topic of courts and the prosecutor's office was evaluated as a priority in view of the political and social situation at the time of our research, since it was connected to high-ranking political officials and several cases that were being resolved or are currently undergoing legal proceedings. The editors therefore assumed that society would also be interested in them. At the same time, some of the political cases also concern public finances, which ultimately affects the entire society. Politics as a topic is one of the basic topics to be covered by the media, and the decision-making of political elites has an impact on everyday life of ordinary citizens and the overall direction of the country. Even more emphasis is therefore placed on the topic.

4 Discussion

As part of our research, we came to several important findings. As we assumed, the most frequent topics that are processed by the agency are topics belonging to the field of political life, more precisely, local government and politics in general. These areas of interest belong to popular topics across all media (Greguš & Predmerská Kačincová, 2020; Greguš & Višňovský, 2020; Greguš & Šulková, 2022). When processing information and determining its individual priority, TASR editors highlight some news in the news service. In this way, they alert subscribers to the importance of a specific topic. At the same time, by pointing out its importance, other media take it up as a priority one, and thus this information reaches the public earlier than other news. It is precisely in this that we can see the influence of agency reporting on current media practice – this is how an agency influences the decision-making processes in the news-selection of other media (see, Greguš & Višňovský, 2020). Based on our research, we can also claim that the workers of the agency are aware of this position and therefore try to reflect the requirements of agency journalism in their daily work. The question remains whether, if the agency does not come with certain information, would it reach the Slovak media environment (which in many cases is dependent only on agency reporting due to personnel and financial possibilities of the media) in another way? The question is how strong the agency is in creating media agenda in the context of the Slovak media environment. Even though political life is a dominant topic in TASR's domestic news service, in terms of average priority it was only ranked sixth. The average value of this variable was mainly influenced by the high representation of reports included in priority 4. However, the editors of TASR confirmed that, despite this, the topic is considered a priority compared to the others, as it is mostly connected to the whole society.

Based on the results of our research, the topic "courts and prosecutor's office" became the most prioritized topic. From the conducted interviews, we found that these results were a bit flawed by the social situation at the time of the research. We implemented it over the period of four months, from the end of 2022 to the beginning of March 2023. In April 2023, the editors pointed out the parallel that in "recent times" high-ranking state officials had been convicted or arrested and several accusations or trials had been launched. These were cases that, in several instances, concerned public finances, and their importance was therefore valid for the whole society. From the statements of the editors, we can conclude that the most priority topics are those that affect all citizens of Slovakia. If a specific case is being dealt with in society, the media also give priority to informing about it. We know from theory that TASR's

domestic news service covers the entire territory of the Slovak Republic (TASR, n.d.) and the agency provides its service across all media. For this reason, news and information intended for general public are preferred.

Another important factor influencing the selection of topics for the service is, of course, currentness. This was emphasized several times by the editors we asked. According to them, they can work on interesting topics that are timeless, but current topics always take precedence, which also confirms the theoretical knowledge in this area so far.

The above-mentioned factors influencing decision-making processes could be included among the so-called objective factors. As part of the theoretical background, we are also aware of other aspects of agency reporting, such as the relevance of information, working with facts or the impartiality of the author. The presence of these aspects in agency reports is a matter of everyday routine, according to the editors, and based on these aspects they create reports and inform the public.

Subscribers of the agency service can take any news from TASR and edit them or release them in the same form as they were published by TASR. However, prioritizing and graphically differentiating higher priority messages has an impact on gatekeeping in ordinary media. Still, it is not a purely subconscious thing. TASR employees themselves agreed that by determining the priority or type of news – flash message and brief report, they can influence the media environment, because in such a case the subscriber will notice the information earlier. One of the interviewee's observation even showed a better media impact with a brief news compared to a regular extended news. Flash messages and brief reports are used for extremely important information that needs to be delivered to the public as soon as possible. Editors usually set priority 2 for flash messages and priority 3 for brief reports. However, we found that flash messages are used very rarely, and some experienced editors have never written them during their lifetime.

In addition to the objective factors affecting the selection of news for processing and determining their priority, in our research we also noted subjective factors affecting this process. Priority determination is mostly based on the subjective feeling of a particular editor. According to the theory, journalists should be professionals and should write impartially and truthfully, thus they should be able to competently decide on the priority and importance of specific information. In this decision-making process, in addition to objective factors, decisions are influenced by the journalist's previous experience as well as their personal interest in the topic. All requested editors have the space to process their own topics within the time available. They can thus choose and determine the information that will be part of the domestic news service. They confirmed that they have their preferred areas of interest. It is with this kind of personal "intervention" that they can influence whether the entire society learns about the message, or whether the message will only appear in the service without further publishing. It makes a difference whether we assign priority 2 or 4 to the information, or whether we publish it as a brief news with priority 3 or as an extended report with priority 4. It also depends on which editor is on duty at given time and how they prioritise information over others. In this case, the question is whether this method of marking messages based on priority can be considered objective and relevant (which requires not only practice from the agency, but also its media nature) or whether it is subjective and ultimately significant interference with the objectivity of the agency news.

Nevertheless, the results of our research confirmed that the discussion on the news-selection or priorities is purely within the competence of the editors and there is no external influence from other influential groups. Editors edit reports only if, for example, they send an article for authorization, to avoid possible misunderstandings. For the same reason, they can consult with different spokespersons or institutions when processing some information, so that there is no shift or bad interpretation. The fact that TASR is a public media institution is also reflected in the processing of information. According to the words of TASR employees,

editors must inform truthfully and without stating their own opinions and provide equal space to both affected parties in the conflict. For this reason, editors feel a certain responsibility when writing agency messages.

5 Conclusion

It is well known that, in addition to objective factors, subjective factors also influence the selection of news for news coverage in regular news production. After all, we know that some media cover certain topics or prioritize some of them. Due to that, new media institutions can arise – some therefore only focus on specific areas of everyday life. However, the significant influence of subjective factors on agency news services is, in the context of such a small market as the Slovak one, a fact that must also be reflected in scientific research and journalistic practice. Especially when choosing a topic, there is an editor´s subjective view of the topic's importance and its prioritization in the news service. Of course, the gatekeeping process is also related to objective factors – public interest in the topic, currentness or nature of TASR media. However, there is still a personal interest of an editor in the topic, which can eventually lead to situations where a message is published that would otherwise not even get into the consideration for publishing by another editor, or that information is given a lower priority than it might deserve from a social point of view. These factors influence media discourse, and it is necessary for people to be aware of thisfact from the perspective of media literacy and to approach the information they receive from the media based on this awareness.

Of course, we cannot omit the research limits. The results of our research cannot be generalized out of the examined news agency, and we cannot consider it as something that occurs in all mainstream media. The limit is therefore not covering the gatekeeping process of all media on the Slovak market. It is also important to mention the number of editors who participated in the interviews. If we had carried out research on a larger research sample, it is possible that we would have come up with not only more detailed, but also slightly different data.

TASR has an irreplaceable function and position in the Slovak media environment, as it collects many texts that other media can use in their news production. It opens public discourse and assigns a specific level of priority to information. The gatekeeping process is closely connected to the editors, who can therefore influence public and media discourse by their decisions, and they are fully aware of their position. According to them, they follow the procedures of agency reporting and creation of journalistic messages. They also fulfil the mission of TASR and inform the public truthfully and impartially, without their own opinions. However, they enrich the service with their own topics, which they process based on their personal interests, but still within the mentioned limits of the TASR rules.

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Artificial Intelligence in Academic Media Environment: Challenges, Trends, Innovations

ABSTRACT

The rapid development of artificial intelligence (hereinafter AI) opens up a variety of opportunities for creativity, innovation, and productivity improvement, particularly for students and academics in media specializations. However, it also causes a fundamental transformation in the studying approach. Additionally, there are several challenges in the implementation, adaptation, and use of AI as a learning method in the academic environment. Both possibilities and challenges are identified and analysed in this study. The empirical results of the research show which AI tools are most popular in the academic media community and reveal how they are used by academics and future media professionals based on the Educational and Scientific Institute of Journalism, Taras Shevchenko National University of Kyiv. The survey results also provide insights into opinions about ChatGPT as one of the main digital study aids in the academic environment. The study also suggests the review of universities worldwide from the perspective of allowing or prohibiting artificial intelligence in the studying process. Content analysis concerning the establishment of policies on AI usage helps determine whether the academic world is adapting to the new reality or rejecting it. Overall, the media environment already uses AI daily, so the academic community should also be prepared for this new reality. However, it is crucial to play by the rules. Finally, this research concludes that the ideal solution for integrating AI into innovative education is the creation of specific rules and ensuring their observance. This approach could be the right way to prevent risks, overcome challenges, and maximize the benefits of AI usage. Finally, the authors have developed basic recommendations for writing AI guidelines by higher education institutions (hereinafter – HEIs) and offered them in the article.

KEY WORDS

Academic Environment. AI Guidelines. Artificial Intelligence. Challenges. ChatGPT. Innovation. Media.

1 Introduction

The worldwide impact of artificial intelligence on the educational landscape is tremendous. It has provoked many discussions, causing the emergence of new trends and innovative approaches in the learning process. Like any new challenge, we must accept it with dignity, updating the academic environment's educational system as carefully and thoughtfully as possible.

Oliver Hedgepeth, a professor at American Public University discusses a critical point for universities today, which means that they need to change the way of thinking about how to use new technology now:

> I do believe here, at 2023, we are on the edge of a transformation as we saw in the '70s and '80s. I remember in the '70s and '80s that I am a math major, I have a math degree, and you could not bring a calculator into the classroom. If you brought a calculator in the classroom, the teacher would point to you: "Get out, you get a zero for today's work". (Hedgepeth & Varkonyi, 2023, para. 35-36)

Well, it took a few years before the faculty and the universities realized these calculators, if we bring them into the classroom, yes, they do not need to understand what two plus two is, that equals four, but they can analyse complex equations. They can analyse, in the classroom, how to send a rocket ship from earth to the moon and do calculations that they usually cannot do (Hedgepeth & Varkonyi, 2023).

The emergence of AI in open access, like the emergence of calculators, has fundamentally changed the educational process, because artificial intelligence opens up huge opportunities for creativity, innovation and increased productivity. Within the first two months after the appearance of ChatGPT in public access, 100 million users joined it (Sabzalieva & Valentini, 2023). Others say that AI should be banned in higher education, as there is a risk that students will stop thinking and researching subjects by themselves. In their opinion, AI tools like Gemini or ChatGPT have become instruments for "pre-prepared homework". Thus, several HEIs worldwide have banned ChatGPT due to concerns about academic integrity. It remains blocked or unavailable in about 30 countries (McCallum, 2023; Conroy, 2023).

So, does the use of AI harm the educational process, or does it help and increase efficiency? We empirically investigated the situation with the use of AI in universities (using Taras Shevchenko National University of Kyiv as a case). We analysed the experience of universities in different countries that either prohibit or allow the use of content-generating neural networks; examined state policies regarding the attitude towards models of artificial intelligence and studied and highlighted the advantages and disadvantages of using AI. Based on this analysis and survey results, we formulated a list of recommendations that, in our opinion, should be followed to minimize the risks and maximize the benefits of using AI tools in the academic environment (including media industry).

2 Methodology

The authors solicited feedback and questions from survey respondents through university networks. Therefore, no confidential personal information was obtained, and neither institutional review board approval nor informed consent was required. This was an observational survey. Students and educators at Taras Shevchenko National University of Kyiv (hereinafter KNU) were asked about their use of AI tools in the academic environment. The survey was conducted using Google Forms. It was spread by university email box and through the university communities in social platforms, and lasted from July 17 to August 31, 2024. In total, 144 respondents took part in the survey, including 70 students and 74 lecturers. The total target number could not be estimated.

Survey response data were presented using descriptive statistics.

The survey consisted of seven questions:

1. Have you used AI for studying (or working)? This question contained two answer options (yes or no).
2. What AI tools do you use? (Answer options: ChatGPT, Gamma AI, Doclime, Midjourney, your answer, or do not use any AI tools.)
3. What do you use AI for? (Answer options: for generating ideas, texts, images, videos, creating presentations, or your answer.)
4. Have you used ChatGPT for studying/working? (Answer options – yes or no.)
5. How do you use ChatGPT in the educational process? (Answer options for students: for generating ideas, using it as a base for further self-research, borrowing fragments of text, doing work completely with the help of AI, generating video images, not using this tool in any way, or your answer; Answer options for lecturers: for generating ideas, using it as a base for further self-research, borrowing fragments of text, doing work completely with the help of AI, generating video images, not using this tool, or your own answer.)
6. Should the use of AI be regulated at KNU? (Answer options – yes or no.)
7. How exactly should the use of AI be regulated? (Answer options: fully forbidden, allowed without limitations, allowed partially (up to 15%, 30%, 50% of the information obtained with the help of AI in one assignment.)

The inclusion of percentage-based options is justified by the fact that students' final papers undergo review and mandatory plagiarism checks using the Unicheck program. Papers with more than 25% of non-original text or those not completed independently are not allowed for defence (refer to the *Regulations on the System for Detecting and Preventing Academic Plagiarism at the University*, 2020). Some analogues of such programs also exist to determine AI generated texts, despite the fact that their 100% accuracy is currently not proven, which is mentioned in the study further.

Additionally, content analysis was used in this research to examine information about universities' policies concerning AI worldwide. The method of analysing university websites was employed to determine whether the academic world is adapting to this new reality or rejecting it.

Researchers visited the official websites of over 50 universities worldwide and conducted manual searches to locate the general AI guideline documents. The initial keywords used for the search included "AI policy", "AI guidelines", "Generative AI policy", "ChatGPT policy", "Generative AI guidelines", "ChatGPT guidelines", "AI guide", "Generative AI guide", and "ChatGPT guide". For the analysis, 50 of the most popular universities in the U.S. and primarily Europe, where media studies are conducted, were selected. The selection of these universities was driven by the fact that many of them initially announced bans on AI but later revised their decisions, in particular, the Russell Group Universities. Of the 50 selected universities, 30 had relevant departments or faculties related to media studies. After reviewing the available modern investigations in that field and monitoring related research, the list of suggested recommendations was created for implementation at KNU, and also for other Ukrainian and international universities, that need to create policies to work with AI tools as safely, efficiently and ethically as possible.

3 Results

3.1 Educators' Responses to the Survey

In the course of the study, a survey was conducted to gather students' and lecturers' opinions regarding their use of artificial intelligence in the educational process. 74 lecturers took part in the survey. Among them, 44.6% are docents, 23% are professors, others are assistants (21.6%) and lecturers (10.8%). 59.5% of respondents have the PhD degree, 25.7% are Doctors of Science and 14.9% have no scientific degrees.

Approximately half of respondents work in the Educational and Scientific Institute of Journalism and belong to the academic media environment. Simultaneously, we received responses also from other departments, including the Educational and Scientific Institute of Philology, the Faculty of Information Technology, the Department of Employment Assistance and Work with Alumni, the Faculty of Mechanics and Mathematics, the Faculty of Economics, the Faculty of Physics, the Faculty of Sociology, the Educational and Scientific Institute of International Relations, the Educational and Scientific Institute of Law, the Department of Economic Theory, Micro- and Macroeconomics, the Faculty of English Philology, the Faculty of Chemistry, and several others.

According to Figure 1, 68.9% of the surveyed lecturers use AI in their work, while 31.1% do not. Among the tools used by lecturers, ChatGPT is the undisputed leader, with 62.2% of respondents using it.
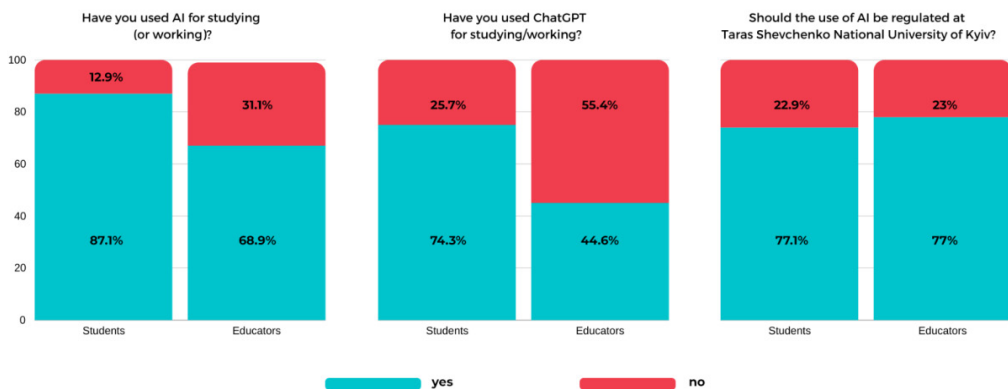

FIGURE 1: *Use of AI and ChatGPT tools by students and teachers in KNU; Reaction to the regulation of the use of AI tools in KNU*
Source: own processing, 2024

Among the tools used by lecturers, ChatGPT is the undisputed leader, with 62.2% of respondents using it. The second place goes to Midjourney, a text-to-image AI tool, with 12.2% of the votes, and the third place is taken by Gamma AI, an innovative tool for creating professional presentations, used by 6.8% of respondents (Figure 2). Other respondents mentioned using AI tools that were not among the provided options, such as Gemini (Bard), Claude, Grammarly, Copilot, Leonardo AI, and a few others. It's noticeable that Doclime, the AI-powered document analysis tool that helps users extract and analyse information from their PDF documents, is not used at all by any of the respondents (0%).
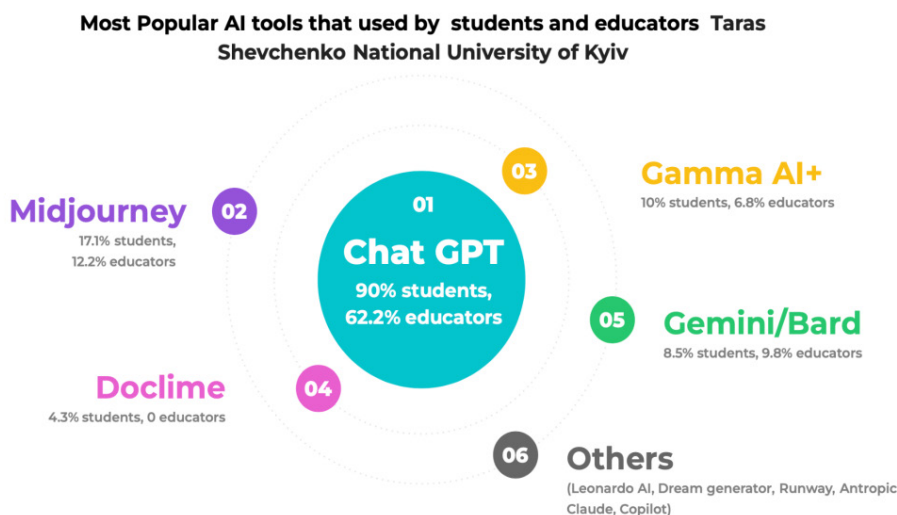
Most Popular AI tools that used by students and educators Taras Shevchenko National University of Kyiv

Most Popular AI tools used by students and educators at Taras Shevchenko National University of Kyiv
Source: own processing, 2024

Next question, "What do you use AI for?" provided these answers: 40.5% percent of lecturers use AI for generating ideas, 28.4% for writing texts, 25.7% for creating pictures, 13.5% for making presentations and 2.7% for creating video clips. The remaining replies were open-ended, so respondents wrote their own purposes of using AI tools by themselves, such as coding, making assignments, editing and improving texts, creating drafts for departmental social media posts, transcribing text from images, proofreading and stylistic enhancement of English-language texts, serving as the basis for homework where students correct AI-generated errors, creating Grammarly tasks with embedded AI, proofreading publications. Additionally, respondents mentioned using AI for tasks, such as translating, better structuring material presentations, sourcing international perspectives, generating prompts on specific research topics, finding relevant information and sources for analysis, editing audio material, planning, engineering, code generation and debugging, developing educational simulators for students, checking students' texts for plagiarism and AI use, aggregating data, finding information, and extracting key ideas from large text volumes. As we can see, the variety of responses is very wide, and we associate this with the facts that educators are from very different departments of the University and that AI tools have a very large helping functionality depending on what is needed from them.

According to the Figure 1, 55.4% of respondents do not use ChatGPT in preparing for classes. Though those who use it are in a minority (44.6%), the figures indicate that opinions among lecturers are nearly split on the matter.

When asked "How do you use ChatGPT in the educational process?", the survey revealed that 32.4% do not use it in any way, with an additional five respondents also indicating no usage in open-ended responses. Among those who do use it, the largest percentage (31.1%) use it for generating ideas, 27% use it as a basis for further self-research, 24.3% for generating images, 5.4% borrow text fragments and one lecturer (1.4%) completes work entirely with the help of AI.

Open-ended responses provided further insights, with lecturers mentioning uses, such as creating assignments, checking texts in foreign languages, structuring tasks more effectively, developing personalized assignments, gathering general information for lecture preparation, creating simple test questions, evaluating lecture comprehension, generating exercises, planning classes, structuring work, generating data for tasks, creating code snippets, developing educational simulators for students, and assessing students.

The answers "I encourage students to consult with ChatGPT for further discussion of the answer generated by it", "I demonstrate to students how to make inquiries better and how to effectively use them in journalistic activity", "I assign students to work with chat in pairs" demonstrate that the teachers of Taras Shevchenko National University of Kyiv directly engage the peer-to-peer tool and show students how to work with it, which is in line with the latest policies that universities around the world are currently implementing.

Regarding the feasibility of creating official written guidelines for the use of AI in the academic media environment and the higher education system in general, the authors found that 77% of respondents support the creation of such documents, while 23% are opposed.

In response to the question "How should the use of AI be regulated at KNU?", the majority of contributors offered a partial allowance, with 27% supporting the use of AI for up to 15% of the information in an assignment. Additionally, 18.9% believed AI use should be unrestricted, 10.8% considered that up to 30% of AI-generated information should be allowed in assignments, 5.4% considered assignments can include up to 50% of information generated by AI, while 9.6% advocated for a complete ban (Figure 3).
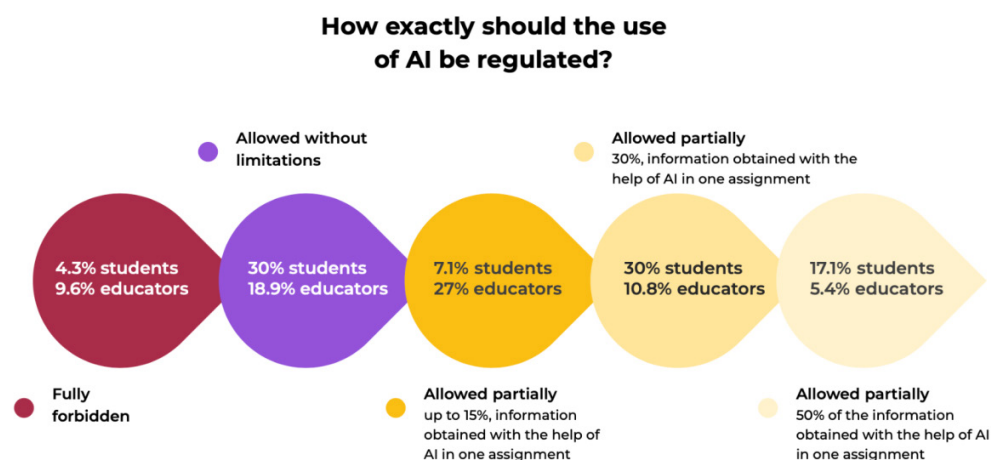
How exactly should the use of AI be regulated?

Allowed without limitations

Allowed partially
30%, information obtained with the help of AI in one assignment

4.3% students
9.6% educators

30% students
18.9% educators

7.1% students
27% educators

30% students
10.8% educators

17.1% students
5.4% educators

Fully forbidden

Allowed partially
up to 15%, information obtained with the help of AI in one assignment

Allowed partially
50% of the information obtained with the help of AI in one assignment

FIGURE 3: *Results of a survey of students and educators of regarding the regulation of AI policy at KNU*
Source: own processing, 2024

This question also included an option for open-ended responses, allowing lecturers at KNU to offer their perspectives on AI usage policies in the academic environment. Their suggestions were grouped into three main themes:

1. Answers that offer options for restriction: "allow, but the % should depend on the specifics of the 'tasks' and the specific speciality"; "to allow as a learning tool and as an opportunity to generate ideas, but not as an answer-performance of the task"; "allow, but emphasize that it is necessary to use AI correctly, to know its capabilities and limitations"; "reconcile the use of AI with copyright and educational purposes"; "develop principles of use"; "allow not for all types of tasks"; "to clearly outline the rules of use".

2. Responses that question the necessity of establishing a precise percentage and propose other solutions for regulating the use of AI: "From my experience, students used AI to generate code, but this did not help them develop their own coding skills. Therefore, I believe it is more appropriate to regulate not the percentage, but the categories of tasks where AI can be applied and for what purposes, and where it should not be used. In most cases, I think it should be banned"; "How will the percentage be measured? Much deeper restrictions are needed: for example, a list of fields or topics where AI can be used, and where it cannot."; "I don't like the option of 'allowing it partially', because, in my opinion,

each teacher should have the right to specify in the assignment the extent, scope, and manner in which AI can or cannot be used. In some cases, it should not be allowed at all, while in others, it may form the basis of the assignment"; "Allow it, but it's difficult to say to what percentage. It probably depends on various factors, such as the type of tasks. We need to test it first in order to gain experience."

3. Answers that refer to the marking of the use of AI: "allow with a mandatory indication of where and how it was used"; "if AI was used in the performance of the task, it must be described"; "mandatory marking that the content is created by AI"; "According to the rules for the use of AI in European scientific institutions, the use is allowed without any restrictions, but with the indication that the given fragment (image, etc.) was generated with the help of AI and which one. I consider it expedient to regulate the use of AI in KNU in the same way"; "it is necessary to indicate exactly which materials were created with the help of AI and in what volume"; "to allow with an amendment to the law on copyright and related rights"; "one can talk about the share only when there is a program that will accurately determine it". One suggestion was: "For lecturers – no restrictions; for students, either partial or complete prohibition". Another response was narrowed down purely to the use of AI in the academic media environment: "Follow guidelines for responsible AI use in the media sector". A third response stated: "I don't see the point in using AI for writing original texts".

3.2 Students Responses to the Survey

As for the student survey, from July 17 to August 30, 2024, 70 students participated in it, including 98.6% of students and 1.4% of graduate students. Though most of the students are from the Educational and Scientific Institute of Journalism, there are also representatives from the geographical and economic faculties and the Educational and Scientific Institute of International Relations. So, despite the fact that the survey was sent to various faculties, it was answered mainly by media specializations' students.

According to Figure 1, 87.1% of respondents use AI in the educational process against 12.9% of those who do not. The main used generative AI tool is ChatGPT (90%). Midjourney (17.1%), Gamma AI (10%), Doclime (4.3%), Gemini/Bard (8.5%) are the first five leaders among respondents. Also, students use: Leonardo AI, Dream generator, Runway, Antropic Claude, Copilot (Figure 2). The main purpose is generating ideas (67.1%), 52.9% use it also for creating texts, 30% for making pictures, 15.7% for creating presentations and 4.3% for making videos. Some of the open-ended replies are as follows: "sometimes for generating ideas, and then I continue researching independently", "I believe AI has no place in education", "for quickly finding and processing information", "for paraphrasing, finding synonyms, literary editing, and simplifying texts", "for finding synonyms and rewriting text", and "for creating schedules and maintaining discipline in text editing".

When asked whether students use ChatGPT when preparing for classes, 74.3% said "yes", against 25.7% who said "no" (Figure 1). Students use it mostly for generating ideas (60%), as a background for future independent investigations (54.3%), and for borrowing fragments of text (40%). There is also a group of students who replied that they do homework completely by ChatGPT (7.1%). 18.6% generate pictures with the help of AI. One student mentioned, "I essentially use it as a search engine to gather information, which I then use for class preparation", while another stated they "check text for errors and ask AI to improve and simplify sentences".

Regarding whether it is necessary to regulate the use of AI in the educational process at KNU, 77.1% of respondents answered affirmatively, while 22.9% believe it is not necessary (Figure 1).

The largest percentage of students, 30%, believe that AI tools should be allowed without any restrictions. Another 30% think AI should be allowed partially, permitting up to 30% of AI-generated content in one assignment. A further 17.1% support allowing up to 50% of AI-generated content in assignments. These three groups represent the majority of opinions. Additionally, 7.1% of students consider 15% AI-generated text sufficient, while 4.3% vote for complete ban of AI tools in any tasks (Figure 3). In the open responses, students shared a range of perspectives, and, as well as in the survey of educators, students' replies are also divided into the same groups:

1. Answers that offer options for restriction: "allow AI as a tool for searching, gathering, and processing information for assignments, but not as a tool that completes the work for the student"; "AI should be fully allowed, but the ideas and concepts should be 100% student-driven, as AI cannot create original thoughts"; "AI-generated information is not always reliable, so it should only be used for simple, repetitive tasks to speed up the work process".
2. Answers questioning the need to set the exact number of percentages for information generated by AI in one task: "I do not think AI usage should be regulated by percentage"; "Allow AI, but let instructors decide on a case-by-case basis"; "In my opinion, we need to learn how to use AI effectively rather than banning it. The focus should be on the quality of the work, (as fully AI-generated work is often low in quality, especially in text-based assignments), rather than just the presence of AI in the work. Moreover, detecting AI usage can be difficult, as even 100% original work has sometimes been flagged as AI-generated by detection programs. Imposing such restrictions could unfairly impact all students, including those who complete their assignments independently".
3. Answers that refer to the marking of the use of AI: "It is better to allow AI usage, but any information obtained should be marked as AI-generated, and text outputs should be manually verified for accuracy". Some students suggested "teaching students how to use AI properly".

In summary, it is evident that students use AI tools more extensively than lecturers, with 87.1% of students using AI compared to 68.9% of educators. Both students' and lecturers' favourite tool is Chat GPT (90% of students and 62.2% of educators use it in daily life), though only 74.3% of students and 44.6% of lecturers use it to study. Students, unlike lecturers, use Doclime, although not a high percentage (4.3% vs 0%). Programs which are noted by students and lecturers in open replies are similar, but lecturers also mentioned Grammarly, one student mentioned Focus AI program, but it was not mentioned by lecturers. The main purpose for using ChatGPT is idea generation for both groups of respondents. In the second place, both students and teachers devoted to the use of AI as base for their own investigations, but students use it more than educators (54.3% vs 27%). 40% of students use fragments of AI text, but, as we can see, only 5.4% of lecturers do so.

Interestingly, concerning the issue of implementing a policy or a guideline for using AI tools in the educational process in KNU, almost equal number of students (77.1%) and educators (77%) said "yes". So, as we see, the academic environment sees a real need to create them in HEIs.

However, the respondents' views on how to regulate AI usage in HEIs are significantly different. The largest number of students' voices (30%) would allow it without limits (against 18.9% of lecturers with the same opinion), while the majority of lecturers (27%) consider limiting the use of AI to 15% in one task (7.1% of students vote for the same). Nevertheless, no one is talking about banning the use of AI. Both students and lecturers generally believe that AI usage should be regulated individually, depending on the course and specific tasks. These responses indicate that the use of AI in academic activities for achieving effective results is not seen as plagiarism, as it was before the inventing of AI, which contrasts with earlier perspectives on a specific percentage of text matches (as defined in the Regulations on the System of Detection

and Prevention of Academic Plagiarism at Taras Shevchenko National University of Kyiv). After all, students and teachers know about the possibility of hallucinations and the need for validation (checking) of information obtained with the help of AI. Therefore, students also want to learn how to use AI with benefit, which is what they are asking for, and some lecturers, as we observed in the survey, are already teaching this to their students.

4 Discussion

4.1 Advantages and Disadvantages of AI

It is time for revolutionary changes in the educational field. Through such a deep transformation, two main points appeared in the academic world: first one says that AI should be used in HEIs officially and on a daily basis. The other one says that AI must be prohibited in academic environment. We analysed both perspectives concerning that issue, collected various experiences to make our own conclusion, justify our opinion and create our own list of recommendations.

Speaking about the advantages of AI usage, it provides a wide range of possibilities for research. UNESCO defines AI's roles in the educational process, as: "possibility engine", "Socratic opponent", "collaboration couch", "co-designer", "study buddy", "motivator", etc. Here are some examples of implementation of these roles: "lecturers can ask students to use ChatGPT to prepare for discussions; working in groups, students can use this tool to gather information to complete tasks and assignments", "lecturers use ChatGPT to generate content for classes/courses", "ChatGPT provides personalized feedback to students based on information provided by students or lecturers (e.g., test scores)", "ChatGPT can be used to support language learning", "AI helps the student reflect on learning material: students explain their current level of understanding to ChatGPT and ask for ways to help them study the material", "students interact with ChatGPT in a tutorial-type dialogue and then ask it to produce a summary of their current state of knowledge to share with their lecturer/for assessment" (Sabzalieva & Valentini, 2023). It is worth noting that these roles were described for ChatGPT-3.5 in 2023. However, AI models are updated regularly, and newer versions now offer even greater capabilities. Moreover, ChatGPT (operated by OpenAI) and Gemini (operated by Google AI) already have several counterparts and competitors.

Whereas projections of LLM performance growth vary, multiple LLM benchmarks, such as IFEval, GPQA and MuSR and LiveBench show increase in scores for all major LLMs in areas related to education, such as reasoning, mathematics, data analysis. Openly available data highlights the performance of various versions of Anthropic's Claude, OpenAI's GPT4 and GPT 4o, Google's Gemini and LaMDA, Mistral and Meta's LLaMA, as well as other models (White et al., 2024). The very fact that many of these benchmarks are based on the capacity of AI models to solve problems and answer test questions suggests the capacity of LLMs to accomplish education-related goals.

Indeed, the aforementioned models power a variety of tools, including general purpose AI-powered chatbots that can be used for educational purposes as well as newly developed ITSs (Intelligent tutoring systems) – apps imitating human tutors, which support learning using customized instructions and reinforce learned material with feedback. These apps use prompting, fine-tuning LLMs on data from human tutoring as well as other approaches suggested by LLM developers to increase the relevance of model outputs.

This development shows that the full potential of LLMs in education is yet to be understood. For instance, it has been shown that new AI models are capable of increasing learning performance, as well as enhancing the experience through personalized and engaging reflection practices. After using LLM for self-studying during one of the studies, students have performed

better on the subsequent test compared to other scalable reflection methods. This leads to deep implications for the edtech industry, as well as for educational establishments (Kumar et al., 2024).

Developments in tangential areas of research also have the potential to affect the use of AI tools in education. New startups are emerging that utilize intelligent platforms integrating AI into nearly all areas of life. For example, the Ukrainian startup Salesdep.AI has developed a platform that helps integrate an AI assistant into company sales departments to assist in consulting with clients (Salesdep, n.d.). Although these assistants were originally designed for business, they may soon be used for administrative functions during university admissions campaigns, such as responding to applicant inquiries, providing information about schedules and classrooms, and more. This is just a matter of time and it highlights the flexibility and universality of AI models. Currently, similar functions can be partially replaced by ChatGPT, saving university employees' time for routine tasks, such as finding news, resources, and other information, sending reminders or notifications, translation of information for international students/staff. On top of that, AI tools are available 24/7 (Sabzalieva & Valentini, 2023).

AI has also become widely used in the media environment. In an article for Nieman Reports, Gabe Bullard examines successful examples where AI has helped newsrooms optimize their operations, generate ideas, establish connections with readers, and reach new audiences (Bullard, 2023).

ChatGPT can help journalists analyse large amounts of data or information. It can also help summarize articles, suggest title options, and edit grammar. There are also advantages to implementing AI in editorial processes. A study conducted by the Reuters Institute in 2023 (Newman, 2023) revealed that two-thirds of surveyed newsrooms use artificial intelligence to personalize the reading experience.

AI automates many tasks and helps newsrooms reach readers online in new languages and compete on a global scale. It analyses publishers' stories to identify patterns in reader behaviour and uses these patterns to recommend stories that readers are more likely to click on. AI even fills in template paragraphs and assists authors with drafts. Additionally, AI is actively used in media for filming television projects and in the film industry. For instance, Disney is already using AI to analyse movie scripts to predict the potential popularity and financial success of their projects during the pre-production stages (Katerynych, 2024).

The academic media environment prepares future specialists (journalists, publishers, analysts, presenters, copywriters, editors, publishers, etc.) who, in a few years, will meet the requirements to work according to the same rules and principles. Therefore, they should learn to use AI as an additional tool to increase efficiency in their future work already during their studies. Accordingly, students at such universities, where AI is allowed in education, will be more competitive for employment. In particular, some companies note the skill of prompt engineering and the ability to work with ChatGPT as one of the expected hard skills in their vacancies' descriptions (UGEN, 2024).

In the American job market, for example, you can find suitable jobs for a request engineer with a decent salary. AI 'prompt engineer' jobs can pay up to $375,000 a year and do not always require a background in tech (Nguyen, 2023). As we can see, the impact of AI on the job market cannot be ignored, and as a result, workers who do not use AI will be replaced by workers who actively use it. In some sectors (advertising, software), this process has already taken place (KNU Career Days, 2024).

It is also important to note the limitations and challenges associated with generative AI tools usage. First of all, there are academic integrity concerns. "HEIs and educators have sounded alarm bells about the increased risk of plagiarism and cheating if students use ChatGPT to prepare or write essays and exams" (Sabzalieva & Valentini, 2023, p.11). Detection of AI usage is a related problem. Since it is currently not clear for sure whether a student has used ChatGPT or not, the responsibility of recognizing AI-generated work falls on the lecturer. Existing tools to

detect plagiarism may not be effective in the face of writing done by this pre-trained transformer. Plagiarism detection software such as iThenticate and Turnitin are commonly used to "check" students' assessment submissions. How well these tools can detect original texts generated by AI remains questionable (Perkins, 2023). Other tools such as GPTZero, ZeroGPT and Winston. AI also claim to be able to detect text generated by generative AI. Despite these claims, many scholars have questioned the accuracy of these tools (Dalalah & Dalalah, 2023).

While highlighting the impact of LLMs on education, researchers also voice concerns about the lack of explicit optimization for pedagogy among systems released on the market. Misuse or malicious use of LLMs may lead to key educational steps, such as data analysis and reflection to be omitted entirely. Rising dependence of students on LLMs and risk of misalignment of their use with the objectives of educational programs, for instance, forced Google to review their approach to responsible development of AI-driven educational tools (Jurenka et al., 2024).

Many in the academic environment also express privacy concerns and that is the main reason why governments ban AI models throughout the country. Most modern AI models require huge datasets for training and the ethics of sourcing data for these models, e.g. lack of consent of individuals whose data is being used for model training, are still the subject to scrutiny, despite the established prevalence of these models.

Lack of up-to-date information often also poses challenges. For example, ChatGPT's knowledge base was last updated in 2021, though it has been given access to the entire internet in 2023 (Reuters, 2023a). Facts retrieval (reference data) may not correspond to reality. For example, ChatGPT can generate links that do not exist. Sometimes AI tools hallucinate. With this in mind, it is critical to conduct effective validation, that is, checking the results that AI provides us. AI models cannot "guess" what you meant, as they are not humans. Therefore, the process of searching for information using AI and the process of thinking itself is impossible without human intelligence.

Next challenge, which has taken place, sounds like original research to create new knowledge: for example, it is not possible to conduct research simply at the request "write an article/research/dissertation". Users of AI tools should be very accurate with prompt engineering to get relevant and quality replies or rely on tools providing responses based on external database search. Anyway, users must check information very carefully every time they gain it.

4.2 Policies of World Universities Regarding the Use of AI

The experience of universities regarding AI use was important for our research. Investigating this issue, we saw that at the level of HEIs of Ukraine and the world, opinions on the introduction of artificial intelligence into the educational process are also divided: some universities prescribe usage policies, adapt to new realities, while others officially ban the use of ChatGPT and other deep-learning models.

The first significant steps in the study of the attitude of world's universities towards AI usage were made by scientists Ping Xiao, Yuanyuan Chen and Weining Bao, who conducted an empirical analysis of the policy of adapting AI in the world and investigated the strategies of its use by various universities. According to this research, as of May 2023, out of 500 universities surveyed, only one-third have official AI usage policies. 67.4% embrace ChatGPT in education, more than double the number of universities that have prohibited it (Xiao et al., 2023).

In another research (Moorhouse et al., 2023) that was published later, in December 2023, the authors examine the extent to which the world's 50 top-ranking HEIs have developed or modified their assessment guidelines to address AI use. Of the 50 universities, 30 were found to have guidelines related to generative AI on their official websites (60%).

As the survey at KNU showed, a significant number of respondents also use ChatGPT when preparing for classes (74.3% of students and 44.6% of lecturers). However, we were interested not only in individual usage, but also in the presence of AI usage policies within the academic environment. Among the supporters of the implementation of AI, who adapt it for their needs and at the official level, is Stockholm University community. Their management has already implemented guidelines for the use of AI-powered chatbots, particularly during exams and academic courses within areas, such as

analyse with colleagues and students and reflect on benefits and problems with AI chatbots and the texts they generate; critically review responses from AI chatbots and make students aware of the risk of inaccuracy and bias; reflect on bias and how different perspectives are expressed in the automatic responses; compare the AI chatbot's responses with those written by experts; reflect on how different forms of knowledge are expressed and how these are valued when machines can now write text. (Stockholm University, n.d., "Use of AI Chatbots by Teachers and Students During Courses" section, para. 1)

The University of Tartu's guidelines for using ChatGPT provide specific tips for students and lecturers on using large language model-based chatbots in teaching and studies, and on citing AI properly. The general principles section states:

The university encourages the use of AI chatbots to support teaching and learning and develop students' learning and working skills. The key aspects of using them are purposefulness, ethics, transparency, and critical approach. In the context of a particular course, the lecturer has the right to decide how to use an AI chatbot or, if necessary, limit its use. The instructions can be included in the course version information. If there are no instructions, the use of chatbots is treated as outside assistance used by the student. In the case of a written work, the use of an AI chatbot must be properly described and referenced. Submitting a text created by a chatbot under one's name is academic fraud. Personal data must not be entered in a chatbot without the person's consent. (Klavan et al., 2023, "General Principles" section)

The guidelines also include a list of examples showing how students and lecturers can use AI chatbots effectively.

Among the universities that have supported the initiative of using AI tools in their environment are also Yale University, the University of Helsinki, University College London, New York University, the University of California, Berkeley (UC Berkeley), Columbia University and Colorado State University, etc. Each of them has developed its own AI guidelines to support learning. For example, Stanford University integrates its guidelines into its media studies process, focusing at the responsible use of AI in media and communication technologies. The University of Southern California created an AI policy, particularly within its School of Cinematic Arts and Annenberg School for Communication and Journalism, which emphasizes the ethical issues of using AI tools in media production and research.

A significant number of universities in Hong Kong, Canada, Australia, and Denmark have created policies for the use of AI chatbots. We identified the implementation of ChatGPT policies at 132 out of 500 universities (26.35%) across 22 countries and regions. The United States had the highest number of universities with ChatGPT policies, with 43 institutions accounting for 32.6% of the 132, followed by the United Kingdom with 23 institutions (17.4%), Australia with 18 institutions (13.6%), and Canada with nine institutions (6.8%). Notably, most institutions with ChatGPT policies are in English-speaking countries, totalling 70.4% of the institutions with such policies (Xiao et al., 2023).

In Ukrainian universities, there is no explicit ban on the use of artificial intelligence, but there is still a need for the development of official guidelines for its application. Meanwhile, some HEIs have already incorporated AI into the educational process. The research indicates

that as of 2023, 5.6% of Ukrainians use artificial intelligence for learning. For example, some students have started using ChatGPT to complete their homework. The benefit of AI is that it adapts, personalizes and augments learning; but the main disadvantage is that compromises the integrity of students' writing and assessment (Kravchenko, 2023).

It is expected that a school for training specialists in the field of AI is planned to be opened on the basis of the Educational and Scientific Institute of Journalism of Taras Shevchenko National University of Kyiv, together with American partners. Partners of the school are American philanthropists – the couple Shelby and Caleb Ward, ideologues of the creative economy, founders of Curious Refuge (the world's first platform for AI storytellers). Their training courses are used by the American Film Academy, Netflix, Pixar, Google and other global technology giants (Yarema, 2024). For the present time, future screenwriters and directors are taught how to effectively use AI-based tools, while upholding the principles of academic integrity in KNU (Educational and Scientific Institute of Journalism, department of Film and Television Arts). To ensure that students remain competitive in the job market, they are trained to work with tools for script development, as well as those that assist with story structure and idea generation for scripts (Katerynych, 2024).

On the other hand, at the legislative level in Ukraine, there is a threat of prohibiting the use of AI. In particular, on June 6, 2024, the Verkhovna Rada adopted in the first reading bill No. 10392 on academic integrity, which provides the responsibility for writing scientific papers with the help of artificial intelligence and plagiarism in scientific activities. According to the document, a person cannot be considered the author of an academic work or part of it when it is generated by a computer program (*Bill of the Law of Ukraine on Academic Integrity*, 2024). However, it is the person who is responsible for checking the data, their validation, which is evidenced by a signature (indication of the last name) under any work/text. So, in our opinion, this bill does not solve the challenges associated with the use of AI in education, and it will not eradicate plagiarism, but may lead to the search for new platforms where students can borrow information and to the popularity of illegal writing services.

Nevertheless, at the level of the law, the prohibition does not exist yet. While about 30 states have already banned the use of AI.

At the educational level, not all universities were ready to accept the challenge. At the beginning of 2023, a number of universities around the world announced a strict ban on the use of AI among their students. For example, 8 out of 24 of the elite Russell Group universities have informed students that using the AI bot for assignments will count as academic misconduct. These includes Manchester, Bristol, Edinburgh, and Oxbridge.

In addition to banning the use of AI, universities aimed to control the environment in which students did their assignments and also aimed to return to proctored pen-and-paper tests. For example, The Australian National University has changed assessment designs to rely on laboratory activities and fieldwork, implemented timed exams and introduced more oral presentations (Cassidy, 2023).

Sciences Po, one of the best universities in France, banned the use of ChatGPT "to prevent fraud and plagiarism" (Reuters, 2023b). The ban has sparked outrage, particularly among visually impaired students who have used AI to make learning more accessible: "We need to be very careful about the difference between making things accessible and having AI do the thinking for us" (Starcevic, 2023, para. 4).

Regarding the approaches to guide ChatGPT use, among the universities that have implemented a policy, a total of 43 universities (32.6%) have chosen to ban ChatGPT by restricting the use of it or any other AI tools in assessments unless explicitly permitted. (Xiao et al., 2023, p. 20)

According to Sullivan (Sullivan et al., 2023), universities that choose to ban ChatGPT face the challenge of effectively detecting its use. Researchers note that as generative AI tools continue to develop, it will become increasingly difficult to prevent students from accessing and using them.

However, in a short period, universities that initially banned the use of AI probably realized that this was not the right strategy, because they have changed their stance on the technology. Vice-chancellors of all 24 Russell Group universities, that include the University of Oxford, London School of Economics, the University of Cambridge, and Imperial College London, have designed five guiding principles that will drive the use of AI in classes and offices (Russell Group, 2023). Sciences Po has published official guidelines for AI use by students which it calls an anti-plagiarism charter (Sciences Po, 2023). Additionally, the university showcases outstanding student work that explores the impact of new technologies on modern education.

Thus, the status of AI usage policies is unclear on the websites of 9 out of the 50 selected universities. These websites indicate that no policies exist, either supporting or restricting AI usage. In contrast, the websites of 41 universities have published specialized guides regulating the use of AI by students and lecturers. Of these 41 universities, 24 with journalism or media-related schools or departments also enforce these AI policies. Many of these universities emphasize adhering to ethical standards in journalistic work, while leveraging the advantages of AI, such as the University of Bristol and Stockholm University. The researchers were unable to find publicly available information regarding AI usage policies at Cardiff University (School of Journalism, Media and Culture).

The high rate of availability of separate policies on the use of AI on university websites indicates that the academic world is adapting to the new reality, rather than rejecting it. Over the year, many universities have revised their AI policies in a positive direction, as mentioned before. The summarized results of the analysis of university websites for the presence of separate AI regulation policies are presented in Table 1.

University	Journalism-related faculty	AI policies or guidelines for students and researchers
Australian National University		Present
University of Birmingham	School of Media	Present
University of Bristol	Department of Film and Television	Present
University of Cambridge		Present
Cardiff University	School of Journalism, Media and Culture	Absent
Colorado State University		Undetermined
Durham University		Present
University of Edinburgh	School of Arts, Culture and Environment, which includes Media Studies	Present
University of Exeter		Present
University of Glasgow		Present
University of Leeds	School of Media and Communication	Present
University of Southern California	School of Cinematic Arts and Annenberg School for Communication and Journalism	Present
University of Liverpool	Department of Communication and Media	Present
Stockholm University	Department of Media Studies	Present
Columbia University	Columbia Journalism School	Present
New York University		Present
Stanford University		Present

Yale University		Present
University of Manchester	School of Arts, Languages and Cultures, which includes Media Studies	Present
University of Tartu	Institute of social science	Present
University of Helsinki		Present
Newcastle University		Present
University of Nottingham		Present
University of Oxford		Present
Queen Mary, University of London		Present
Queen's University Belfast		Undetermined
University of Sheffield	Department of Journalism Studies	Present
University of Southampton	School of Media, Culture and Society	Undetermined
University of Warwick	Department of Film and Television Studies	Present
Harvard University		Present
University of California, Berkeley (UC Berkeley)	Journalism School	Present
London School of Economics and Political Science	Department of Media and Communications.	Present
University of Chicago		Present
University of Sydney	Department of Media and Communications	Present
University of Amsterdam	Amsterdam School of Communication Research	Present
University of Copenhagen	Department of Media, Cognition and Communication	Undetermined
Ludwig Maximilian University of Munich	Institute of Communication Science and Media Research	Undetermined
University of Zurich		Undetermined
University of Barcelona	Department of Journalism and Communication Sciences	Undetermined
University of Bologna	Department of Communication	Undetermined
Scienses Po		Present
Massachusetts Institute of Technology (MIT)	Graduate program in Science Writing	Present
Pennsylvania	Annenberg School for Communication at the University of Pennsylvania	Present
The University of Melbourne	School of Culture and Communication	Present
Cornell University	The Department of Communication	Present
The University of New South Wales (UNSW Sydney)	Department of Communications and Journalism	Present
Princeton University	Emma Bloomberg Center for Access and Opportunity at Princeton University	Present
University of Toronto	Department of Arts, Culture & Media	Present
University of British Columbia		Present
Carnegie Mellon University	CMU's Home for Political Science and International Relations	Present

TABLE 1: *The existence of AI regulation policies at universities worldwide and the presence of faculties or departments related to journalism*
Source: own processing, 2024

Describing the rapid development of AI technologies, Toby Walsh, a Scientia professor of artificial intelligence at the University of New South Wales, said that "it's an arms race that's never going to finish, and you're never going to win" (Cassidy, 2023, para. 19).

4.3 Recommendations for Using AI Tools in Academic Environment for KNU

Despite the challenges universities have faced since the widespread availability of generative AI tools, we have found out that AI instruments can significantly speed up research work. So, what can be done to overcome the risks and challenges associated with AI use? The key question is "How to use AI properly?" and here are some ideas we have systematized:

1. "Students will cheat – academic environment need to adapt" (Genesis, 2023). To avoid copy pasting papers, lecturers have to update or change the way they do assessments, basing them on in-class or non-written assignments instead (Sabzalieva & Valentini, 2023). Give students such tasks that cannot be copy pasted from AI models. Lecturers should create complex assignments that require critical thinking and problem-solving, forcing students to engage deeply with the material. In this way, AI can be used as a supportive tool rather than a shortcut to answers. Create tasks that require collecting original data by means of interviews, observation, fieldwork, archive study, or other methods, and analysing the data – the University of Tartu guidelines for using AI chatbots for teaching and studies, Version 1, 28 April 2023 (Klavan, 2023).

2. To avoid AI errors and mistakes, always check the information it provides. AI models can sometimes hallucinate, meaning they may generate material that does not exist or provide false citations and links, as they do not have access to real-time Google search. Additionally, be mindful of prompt engineering. The type of task you need to solve will determine which AI tool you should use (e.g., ChatGPT from OpenAI, Gemini from Google, Llama from Meta) and the quality of the response you receive. Traditionally, OpenAI models rank at the top ("Chatbot Arena (formerly LMSYS): Free AI Chat to Compare & Test Best AI Chatbots", n.d.). To ensure effective prompts, developers of large language models (LLMs) have created specialized guides that detail how to work with each model. OpenAI, for example, offers six strategies to help users achieve better results (Open AI Platform, 2024). The resource https://www.promptingguide.ai offers a detailed tutorial to help users achieve better search results. The site describes 17 different techniques for working with search queries. Educators can also find a specially developed guide from Microsoft (Rice, 2024), which provides tips on constructing prompts when using AI (DAIR.AI, 2024).

One more statement authors would like to notice here: don't hesitate to ask your mentor anything concerning Generative AI tools. If you are in doubt about whether a generative AI source (or any source) is a permitted aid in the context of a particular assignment, talk with the instructor (Stanford University, 2023). The need to talk with mentors was announced also by both students and lecturers during the survey.

3. Regarding the issue of the impossibility of checking for plagiarism, developers are still working on creating a program which will be effective for detecting "copy pasting assignments" made by ChatGPT. At the same time, Gemini AI can already be detected in the researches, because it uses information from Google (Sabzalieva & Valentini, 2023). And yet, as for now, lecturers need to control academic integrity issues by themselves. Distinguishing whether a text was written by AI or a human:

   We also have such students very often, who come to us for different kinds of cases, perform tasks and when the answers are written by ChatGPT – it is always obvious. It is clear when something is just copy-pasted and slightly edited or when it is written by the

student... We got 100 works, 20 of which were completely identical... but on the other hand, there were works where you can see that ChatGPT was used intelligently as a tool for generating ideas. When you have looked through dozens of papers, you already see that these patterns are similar. (Genesis, 2023)

Based on the results of two surveys, taking into consideration the analysis of university experiences and ideas how to use AI to avoid the main challenges, which we systematized in the text above, we formulated recommendations for using AI tools in academic environment for KNU. These guidelines can also be taken into consideration by any other Ukrainian or international HEIs, which are interested in creating official AI policies. We would call them "fingers rules", as they can be counted on one hand and are easy to remember, but at the same time they are crucial to follow:

I. The academic environment encourages the use of generative AI models to support teaching and learning and develop students' skills to be competitive in the job market. Use ChatGPT as a tool for brainstorming ideas/exploring different perspectives on a topic, or for supplementing your understanding; but ensure that the final work reflects your own original thoughts and analysis. Note that using any AI tools to substantially complete an assignment or exam is not allowed.
2. Main principles of AI tools use should be the same for everyone and obligatory: transparency, ethics, academic integrity, and a critical approach. At the same time, rules for AI use may be individual and differ depending on the subject and the type of task. But in general, universities' employees should develop complex assignments which require original thought and data collection, updating assessment methods to avoid copy pasting in papers.
3. Always critically evaluate and verify the content generated by ChatGPT/other AI tools before including it in your academic work. AI models can reflect biases, harmful narratives or discrimination present in the data it was trained on. Also, AI-generated content may contain inaccuracies or outdated information, such as non-existent links or fabricated facts.
4. Implement citation rules: always mark when the content was created by an AI tool when conducting research.
5. Personal data must not be entered in a chatbot without the person's consent for privacy concerns.

5 Conclusion

The rapid development of AI has significantly transformed the academic landscape, offering immense opportunities for creativity, innovation, and productivity, particularly in media studies. AI offers numerous benefits, such as aiding research, personalising education, and enhancing media production. For instance, it was found in the research that after using LLM for self-studying during one of the studies, students have performed better on the subsequent test, compared to other scalable reflection methods. This leads to deep implications for the educational establishments and confirms the expediency of using AI in education.

However, it also reveals challenges, concerning academic integrity, the potential for plagiarism, misinformation, lack of up-to-date data, privacy concerns or the potential loss of critical thinking skills among students. That's why Universities worldwide are divided on AI integration, with some institutions adopting official policies to embrace AI tools like ChatGPT, Gemini, DALL-E in the educational process, while others have banned them. First instruments to detect AI in students' papers are only in development, and those which have appeared, like The Turnitin AI Detector, have raised more questions than answers.

During the research, we found out that websites of 41 universities have published specialized guides regulating the use of AI by students and lecturers. Of these 41 universities, 24 with journalism or media-related schools or departments also enforce these AI policies. Many of these universities emphasize adhering to ethical standards in journalistic work, while leveraging the advantages of AI. The high rate of availability of separate policies on the use of AI on universities' websites indicates that the academic world is adapting to the new reality, rather than rejecting it.

Empirical research conducted at Taras Shevchenko National University of Kyiv revealed that both students and lecturers are actively using AI tools like ChatGPT, Gemini, Midjourney, Gamma AI, etc. for various educational tasks. The survey highlights the need for clear guidelines on the ethical and effective use of AI in KNU and other HEIs, which still don't have them. It also shows that it is better not to limit the AI use with percentage restrictions, but to create individual approaches to the assignments depending on subject and task. It's important to teach students how to work with AI to achieve better results, rather than simply ban its use and rely on detection, because students will likely use it anyway.

We do believe that using AI as a springboard for personal development and remembering to adhere to ethical standards and principles of academic integrity, the scientific community can reach new heights, while saving time and effort. The main thing when using artificial intelligence is to use your own intelligence as well, which will definitely minimize risks and double profit.

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Slavka Pitoňáková

Media Production as an Option for Enhancing Cultural (Heritage) Literacy

ABSTRACT

The present study provides an interdisciplinary perspective on enhancing the cultural (heritage) literacy of young recipients through media production. The aim of the article is to present a comprehensive perspective on a media product that is seen as a means of education that supports implicit learning about culture and cultural heritage. In this context, media products are presented as an effective option for enhancing cultural (heritage) literacy. By presenting a single-case study, the article highlights the importance of the preparation of university-educated professionals for the field of media and culture. These professionals are capable of interpreting, creating and using media products for the process of enhancing the cultural heritage literacy of society. The secondary aim of the article is to contribute to theoretical insights on the topic that is presented, and also to stimulate further, broader discussion on its application in practice, which has been relatively overlooked in current scholarship.

KEY WORDS

Cultural (Heritage) Literacy. Culture. Education. Media Product. Value.

1 Introduction

Since the advent of the media, their representatives have mapped and archived all the key events that have affected the development of society. Their role was not only to inform the public but also to preserve historical records, and thus they have become a type of chronicle of the development of society. Through newspapers, television, radio, and in later stages through the Internet and new media, they have documented political, economic, cultural and social changes. At present, these records provide valuable insights about the past, and they help in better understanding the present. In this way, the media contribute to the maintenance of a nation's collective memory while shaping our perception of history and our cultural identity.

In the present article, we point out to the role of media production in the formation of cultural (heritage) literacy and the cultural identity of selected population groups. Within the dominant link to the presentation of cultural heritage, we deal with the idea of a complex value (i.e. not only the economic value) of the media product in relation to the presentation of cultural heritage. There are various aspects that still threaten this value – e.g., disasters, wars, vandalism, redundant commodification, etc. The negligence of this topic in the media environment is also related to this issue. In recent years, there has been an increase in (this interest has been in certain cases false) interest in the subject of cultural heritage, not only on the part of the public (often conditioned by so-called "heritage marketing"), but also in scientific and educational communities in various fields of interest, as well as in the media environment. There is an increasing number of professional and scientific events as well as initiatives and calls for European research and education grant schemes. The topic of cultural heritage is also a political topic (e.g., the European Parliament declared the year 2018 as the European Year of Cultural Heritage) and a topic for politicians (also in the context of political marketing and the use of cultural heritage as propaganda). The general increase in interest in the topic of cultural heritage has been reflected in various ways and to different degrees by the media, and consequently by their recipients.

The controversies about the scope and methods of media coverage of the topic of cultural heritage (in various media formats and genres) have contributed to an increased interest in the scholarly debate on this topic. The outcome of these debates should contribute to raising public awareness not only about the protection of, but also about the modern and authentic presentation of cultural heritage and the support of cultural identity.

Media products are of various quality. Their complex value also lies in their benefits for the users (e.g., new information, entertainment and relaxation, enhancement of skills, etc.) and support of prudence and critical thinking (Kačinová & Vrabec, 2022). In addition to linguistic, social or motor skills, implicit learning through media products with cultural value can contribute to increasing cognitive knowledge about cultural heritage (culture in general) and at the same time, it contributes to strengthening cultural identity (e.g., national, regional, European, global, religious, ethnic, linguistic identity, etc.). The purpose of the article is to present a view of the media product as a means of enabling the mass consumer to learn about cultural heritage of global and domestic origin in a relevant and accessible manner, through available technologies. There is also a presentation of a perspective on the media product as a means of unintentional, implicit learning, in which the individual learns spontaneously, without intentions to learn. This is performed through indirect forms of information transfer, such as reading books/newspapers, magazines, comics; listening to radio broadcasts, podcasts; watching films and various TV programmes; playing offline and online (computer) games, etc. Despite the fact that this type of learning takes place outside traditional educational contexts and despite the fact that an individual enters the learning process without the intention to learn, the process can be very effective, and the outcome can be positive because it takes place naturally and without a conscious effort. In this process, universities and institutions training university-educated professionals capable of exploiting the positive potential of media production for the benefit of increasing the cultural (heritage) literacy of society should play an important role.

The present study is built on three basic constituents – cultural (heritage) literacy as an essential component of university education, the media product as a potential carrier of information with a certain cultural value, and particular examples of selected media products presenting the topic under study in an interesting way. For these reasons, in this article we also present partial parts of our own theory of the value model of media product (Pitoňáková, 2023), and the results of partial research that focuses on the perception of the topic of cultural heritage in media products by university students (Pitoňáková, 2022). Finally, we present selected media products with an emphasis on this area.

2 Methods

Due to a lack of sources of literature directly related to the topic, the study presents an exploratory nature of research – it focuses on the basic form of familiarity with the topic and its context. This approach enables the presentation of particular aspects of the issue in a contextual and interdisciplinary way, emphasizing the interconnection between cultural (heritage) literacy, media production and university education. The result is an outline of approaches that can be further explored and analysed, in addition to a framework overview of the topic. The research also includes a single-case study aimed at tracing a unique example of university education within an interdisciplinarily-oriented original study programme that combines media studies, cultural heritage and digital humanities.

In the section of the paper that is focused on the media product, we follow our conceptual research focused on the model of media product value (Pitoňáková, 2023). In the descriptive parts of the paper, we attempt to grasp the phenomenon under study in particular associations and to capture their relationships (Sedláková, 2014). This aspect is particularly important when describing the interdisciplinary linking of topics – in this case, media production and cultural heritage. In the part of the paper that is aimed at identifying the topic of cultural heritage among a group of university students, the questionnaire as a method of research was applied.

As regards the theoretical aspects of the paper, these are based on available sources from the field of cultural (heritage) literacy and media theory, with a link to partial areas of cultural heritage. At the same time, cultural heritage is neither described nor analysed and we perceive it as a constitutive element that forms a certain measure of cultural value of the media product. We frame such a view with findings from the field of education of future media practitioners. A few authors address this perspective with a more comprehensive view, and in most cases, only in partial parts of their research.

Ultimately, the aim is to establish a shared context in order to provide a summative yet concise view on the interdisciplinary topic of the interconnection between media production, the presentation of cultural heritage in creative industries and educational contexts.

3 Results

Cultural literacy is a complex concept that encompasses several areas – the knowledge of history, literature, art and also the ability to understand and to obtain a form of familiarity with various cultural environments. According to Segal, cultural literacy is "part of the general movement of interdisciplinarity within humanities and between humanities and other disciplines, but it is a distinctive activity within that larger movement" (2015, p. 71). The issues of *cultural literacy* and *cultural heritage literacy* are too complex, given the need to survey them in a comprehensive way. The issues of cultural literacy can be viewed from multiple perspectives and their implementation in society depends on an interdisciplinary perspective. While the term cultural literacy is understood as the individual's ability to know and to understand what

people in a particular society consider standard and shared (the above-mentioned includes e.g., knowledge of historical events, language, historical figures, important works of art and this knowledge allows them to interpret messages, symbols, concepts, etc.), it is also an important aspect of cultural heritage literacy. cultural heritage literacy focuses on knowledge, understanding and preservation of cultural heritage – language, traditions, folklore, historical and artistic monuments that are heritage for a particular community or nation (it is also the ability to interpret symbols and messages associated with cultural heritage and also understanding the importance of preserving these non-material values for the next generation).

The perception of the concept of cultural literacy evolved over time, and following Hirsch's well-known concept, more studies that focused on this area were published. García Ochoa et al. consider cultural literacy as

a threshold concept, following Meyer and Land's understanding of the term. According to Meyer, Land, and Baillie, the experience of learning a threshold concept is similar to 'passing through a portal, from which a new perspective opens up, allowing things formerly not perceived to come into view'. (García Ochoa et al., 2016, p. 548)

Öztemiz emphasizes the fact that "in the 21st century, some factors, such as the awareness of multiculturalism, the preservation of local culture and the recognition of national cultural heritage, have led to the need for a new literacy skill called cultural heritage literacy" (2020, p. 818).

In order to obtain a better overview of the evolution of the interest of academics in this field, we conducted a survey of the number of publications focusing on cultural (heritage) literacy. We chose the Web of Science Core Collection (Clarivate, 2024; hereafter referred to as WoS) as our reference database, which includes a relevant number of relevant articles, conference papers, and other scholarly texts. The database allows searching for articles according to a defined topic (it considers the title, abstract and keywords of each document relevant for the assessment of a match) and then allows the creation of summaries of these articles. The following figure (Figure 1) presents the development of the number of articles in the WoS database focusing on cultural literacy a year-by-year basis. The year 1984 was chosen as the first year after the publication of the study of the same title by Hirsch (1983).
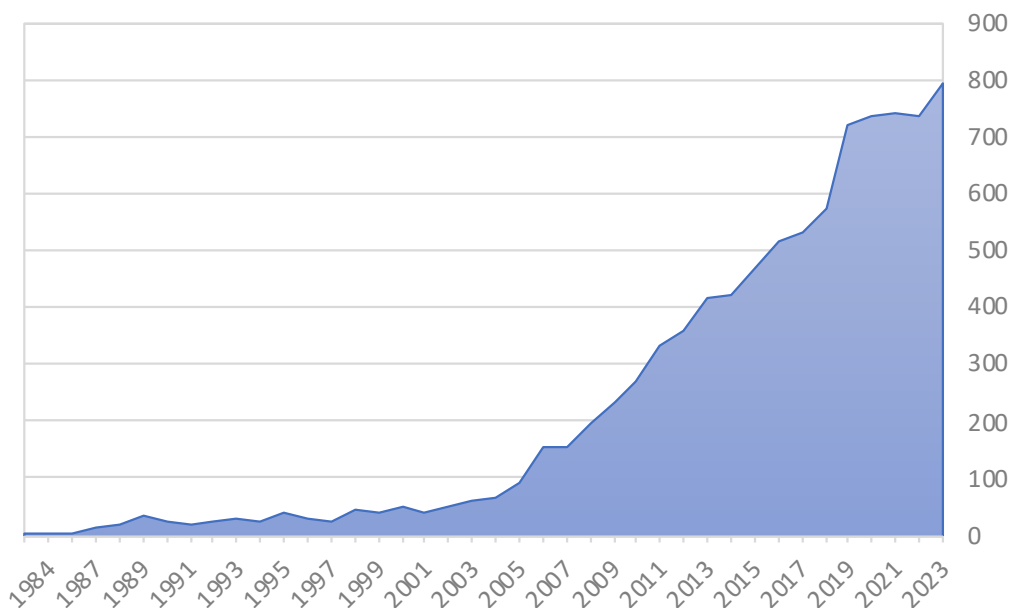

FIGURE 1: *The number of articles in the WoS database focusing on cultural literacy a year-by-year basis*
Source: Clarivate (2024)

In order to compare the development of interest of academics in this field, we also present the development of the number of articles in the WoS database focusing on cultural heritage literacy on a year-by-year basis (there was a minimal number of studies focusing on this topic before 1996).
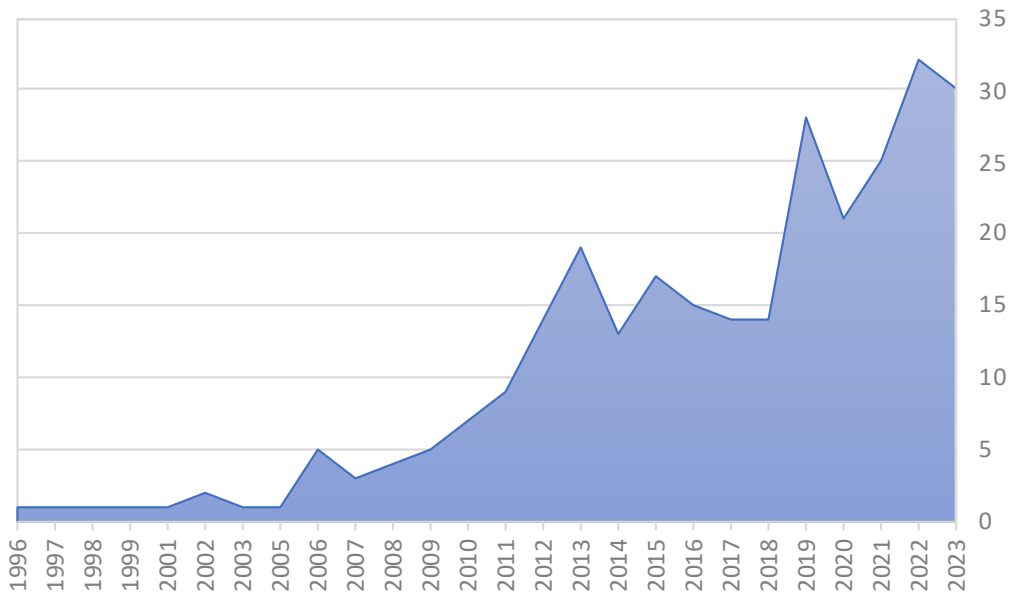

FIGURE 2: *The development of the number of articles in the WoS database focusing on Cultural Heritage*
Source: Clarivate (2024)

Cultural (heritage) literacy resonates in academia; however, the data on its implementation in practice is scarce. There are also very few statistics directly focused on this topic and indicators that can indirectly indicate the level of cultural (heritage) literacy (access to education, education in the humanities and social sciences, access to and participation in cultural activities, etc.) provide only a partial picture of the reflection of this topic in education and in society in general. As an example, we present the current data on the global level of general literacy. Based on data from the Statista database, it can be stated that "in the past five decades, the global literacy rate among youths aged 15 to 24 years has grown from 77 percent in 1975 to 92.7 percent in 2022" (O'Neill, 2024, para. 1).
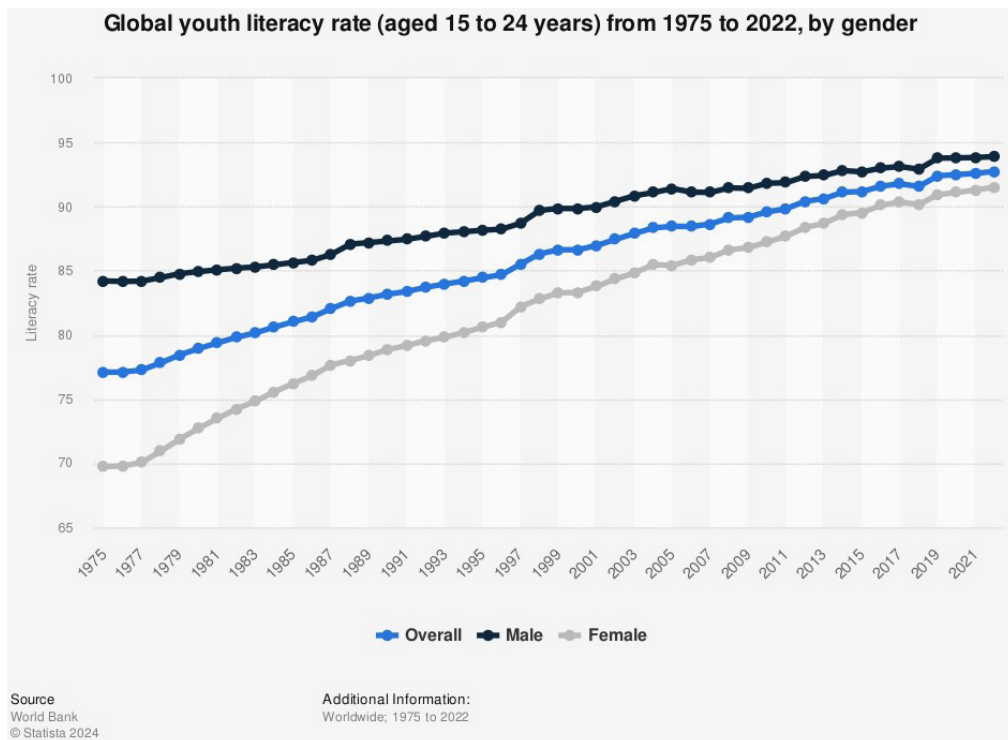
FIGURE 3: *Global youth literacy rate 1975-2022, by gender.*
Source: O'Neill (2024)

In the process of conducting a survey of academic outputs as well as outputs from the Statista database, we can find statistics related to diverse areas of social life as well as various literacies; however, we have not managed to identify statistics directly related to cultural (heritage) literacy. These findings reflect the observation that

there is a growing body of work on the field of what is now known as 'cultural literacy', but little has been written about its application, and even less on how to teach it in the context of higher education. (García Ochoa & McDonald, 2019, p. 351)

Within academia, we have noticed an increase in scholarly work that is focused on various aspects of education and research in this area. However, as the analysis indicates, the vast majority of articles (9,698) are based on the category "Education, educational research", while only a small fraction of articles (402) is classified in the category of "Communication". This situation highlights the need to pay more attention to the study of the area of media and communication, which is heavily involved in shaping contemporary social discourse. The task of university institutions that are active in the field of media and communication studies is to ensure the training of socially responsible professionals with sufficient cultural insights and with the ability to transform their knowledge and experience into practical life.
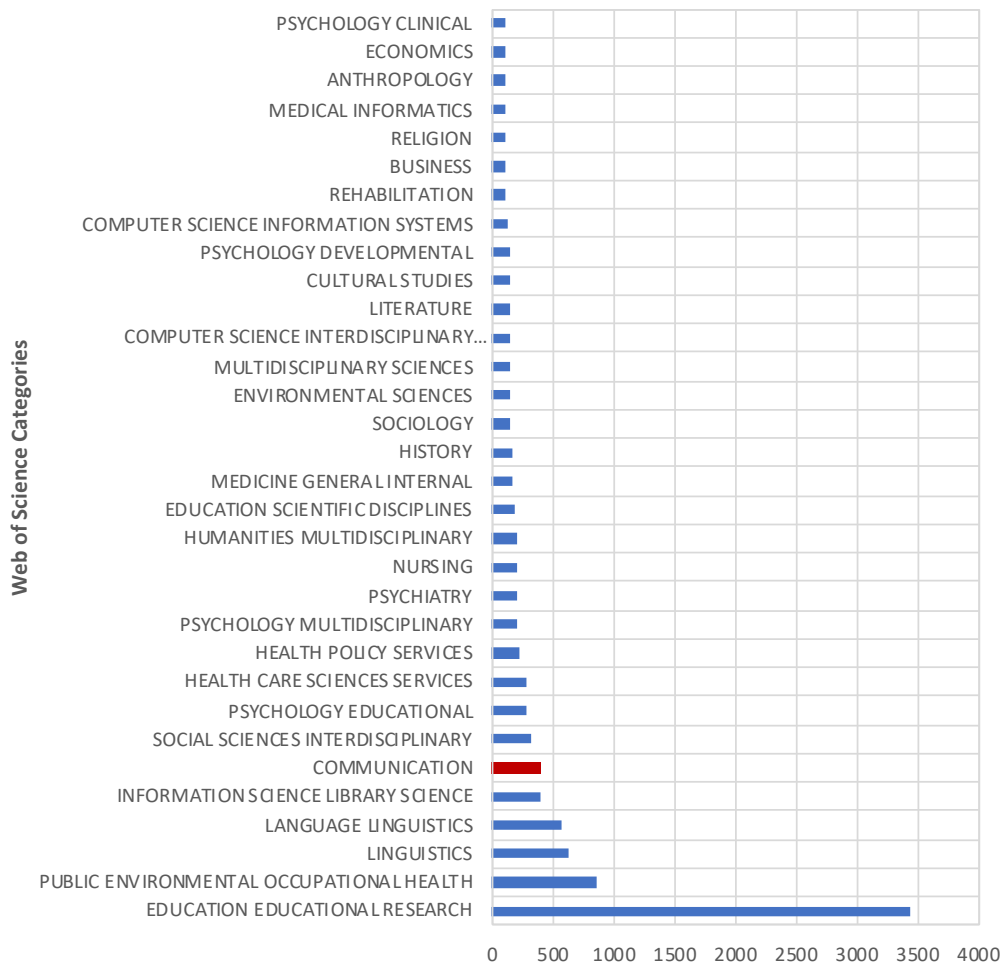
FIGURE 4: *The vast majority of articles are based on the category "Education, educational research"*
Source: Clarivate (2024)

Cultural Industry, cultural heritage literacy and education – the cultural industry plays the key role in shaping literacy by providing media products that inform and implicitly educate the public. Education in the area of cultural heritage literacy enables better understanding and critical evaluation of the content that cultural industries produce. Integrating cultural heritage literacy (Choquette, 2009) into educational programmes promotes not only personal development of people but also their active participation in the cultural life of society or participation in creative industries that are extremely important for the intellectual growth of society and which have enormous economic potential.

According to the study *The Economy of Culture* (KEA European Affairs, 2006), the entire cultural industry is divided into cultural and creative sectors. The cultural industry covers a wide range of areas including cultural heritage, film, media, etc. Its fundamental base is formed by economic value that is created through an individual creative input or through an artistic talent. Therefore, it is related to the economic increase in the value of the intellectual property within diverse fields of various creative activities. Our study draws attention to the commercial potential of cultural heritage, which is increasingly used at present as a major source of economic income. However, according to Bitušíková (2017), too much commercialisation of heritage may result in a counterproductive consequence: in certain cases, it is difficult to recognise what is real, authentic cultural heritage in a particular locality (region) or in a country and what is a

mere "fake" – an imitation or a fabrication made for tourists and profit. Lowenthal (1998) even discusses the era of the cult of heritage, when heritage cannot be questioned or refused.

While cultural heritage is an important source of economic revenue and growth for the creative industries, economic interest cannot outweigh (and consequently cannot threaten) its intrinsic value. Thus, decision-makers in developed countries should not only emphasize the overall promotion and the development of creative industries, but they should also promote education in order to support the growth of cultural (heritage) literacy among the population, more specifically, the growth of cultural (heritage) literacy among experts who work in the media and cultural spheres as

> Higher Education institutions face specific challenges preparing graduates to live and work in transdisciplinary and transcultural environments. It is imperative for these institutions to provide their students with the skill sets that will give them the mobility and flexibility to be able to operate efficiently in different cultural and professional contexts. (García Ochoa et al., 2016, p. 546)

On this basis, the link between cultural industries and cultural (heritage) literacy can be seen as essential for the sustainable development of the contemporary cultural sector and also for society as a whole. The aforementioned cultural (heritage) literacy represents an individual's ability to understand, interpret and appreciate these cultural products and practices, which ultimately contributes to economic growth of society, but also to a better understanding of cultural aspects of society. University programmes, courses and workshops focused on education in media and communication studies are also important tools for enhancing cultural heritage literacy and for preparing future professionals in cultural (i.e. also media) industries, especially if we expect them to be the producers and disseminators of information of high cultural value in practical life.

Öztemiz observes that "by considering cultural heritage literacy skills, professionals of cultural heritage institutions can develop new information services for cultural-heritage literate people" (2020, p. 818). García Ochoa et al. even consider cultural literacy in university education "a modus operandi and a threshold concept, following Meyer and Land's understanding of the term" (2016, p. 546). There are several approaches to university education in the field of cultural (heritage) literacy. According to García Ochoa et al., an interesting teaching strategy lies in the so-called destabilization

> that propitiates both a conceptual shift in students, and a more instinctive, 'visceral' form of unrest that is aimed at unsettling their views on culture, identity, and the world at large. The purpose of destabilisation is for students to understand how they approach, both conceptually and empirically, what they do not know. How do they react to uncertainty and the instability of new situations? The aim is to destabilise students' perceptions around certain topics in order to prompt introspection at a very fundamental level. (García Ochoa et al., 2016, p. 550)

García Ochoa et al. (2016) also propose *Destabilisation* and *Reflection* as two strategies for teaching cultural literacy. Other approaches are related to education through attractive lecture activities and workshops in various cultural and memory institutions. Another option is experiential learning with the direct involvement of students in the creation and implementation of various events, taking into account the aspect of cultural (heritage) literacy. There is also another option that is related to exploiting the potential of media products in enhancing cultural (heritage) literacy.

In the introduction to the paper, so-called implicit education was mentioned, which is closely linked to the field of various media products (with a different cultural value) in modern society. As we are exposed to media content through the media, we acquire new knowledge without conscious effort and subsequently, this knowledge shapes our opinions and attitudes. Media

production thus plays the key role in the dissemination of cultural values and information and by reflecting and disseminating dominant cultural narratives, it shapes our cultural (heritage) literacy and our understanding of the world in an implicit way. For this reason, it is important to address the complex (not just economic) value of media products that mass audiences often adopt.

According to our theory (Pitoňáková, 2023), the value of a media product can be viewed from different perspectives and traditionally; however, the evaluation of media products has been associated with the perspective of their consumers and producers. It is also important to create a form of space for issues related to the value and cultural level of the media product (unrelated to ratings or economic benefits). These are values related to culture, in the narrower sense of cultural identity. In certain cases, media products can be seen as information messages about the history, culture, and cultural heritage of nations. Since partial possibilities of calculating the value of media products mostly reflect only the economic value of the product, our aim was to develop a theoretical model describing the value of a media product comprehensively as a synergy of economic, content, social, cultural and other factors.
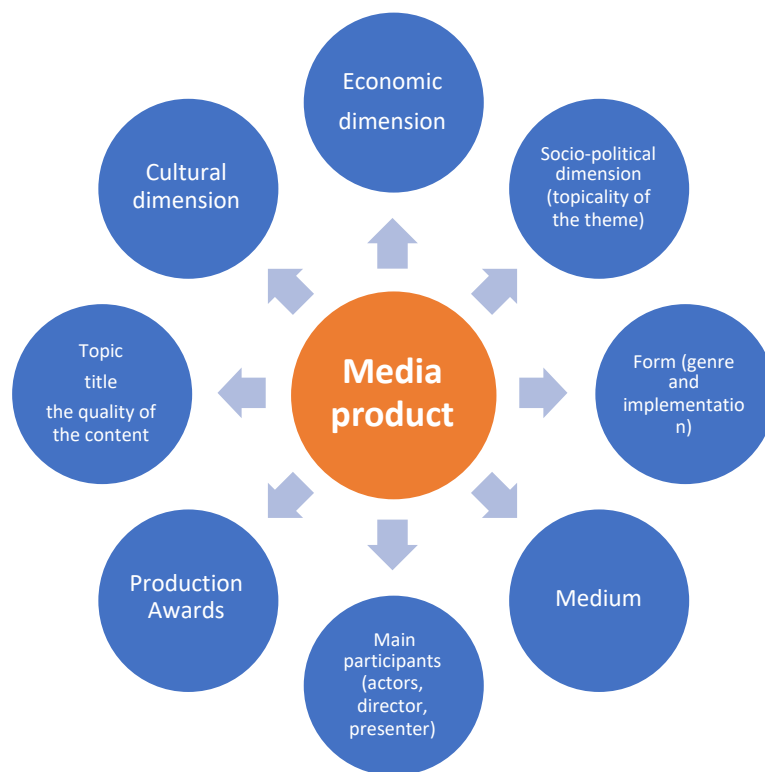

FIGURE 5: *The model of value of a media product*
Source: own processing, 2023

This perspective on media products enables their effective use in implicit education and also in the training of university-educated professionals. The activities can be implemented within the framework of various courses of the educational curriculum, and can be carried out in the conditions of a traditional seminar session when students analyse selected media products (in order to identify their cultural dimension, references to art, culture, cultural heritage), they parody diverse media products (in order to draw attention to the underused cultural potential of media products in a humorous way) and create media products (with the aim of creating media products with cultural value that are elaborated in a modern way, taking into account the requirements of the target audience and respecting the cultural values of the given society).

Although cultural heritage is an important source of economic revenue and of growth for creative industries, economic interest cannot outweigh (and therefore it cannot consequently threaten) its real value. Thus, decision-makers in developed countries should not only emphasize the overall promotion and development of creative industries, but they should also promote education in order to support the growth of cultural heritage literacy among the population, as the over-commodification of cultural heritage calls into question its true value and authenticity. On this basis, the link between the cultural industries and cultural heritage literacy can be seen as not only essential for the sustainable development of the cultural sector, but also of society as a whole.

University programmes, courses and workshops on cultural heritage education are also important tools for increasing cultural heritage literacy, and are also important for the preparation of future professionals in the field of cultural industry. As an example, the study programme Mediamatics and Cultural Heritage that is offered at the Faculty of Humanities of the University of Žilina links, in an interdisciplinary way, the study of media, cultural heritage and digital humanities. Cultural literacy is understood as the basis for developing skills within the cultural industry but also as a skill that is needed to create, analyse and critically evaluate the media and cultural products. When these skills are developed, "students can formulate their own standpoints and therefore, they are not passive consumers of the information that is presented" (Hampl, 2022, p. 59).

In interviews, students (e.g., in a survey conducted at the Faculty of Humanities, University of Žilina (Pitoňáková, 2022)) often state that they encounter the concept of cultural heritage literacy for the first time at the university. This finding suggests that the topic of cultural heritage literacy is not sufficiently covered in primary and secondary education and at the same time, it is not sufficiently saturated in the media space either. Consequently, students often have limited knowledge about the meaning and importance of culture and cultural heritage.

The interviews with students suggest that for some students, this new horizon of knowledge is a benefit and an opportunity to engage in activities aimed at preserving and promoting cultural heritage. Education in this area is very important, as "cultural capital is derived from education, because this determines who has which cultural needs, values and tastes" (Pravdová et al., 2023, p. 218).

Properly and purposefully delivered courses within university education (not just in non-technical educational settings) can play a key role in increasing cultural heritage literacy among young people. A positive attitude towards cultural heritage should be an important part of the educational process that shapes the cultural identity and civic awareness of all individuals in the society. At the same time, emphasis should be placed on training educated professionals for work in the cultural sector and the cultural industry, professionals with knowledge and cumulative skills in the fields of history, cultural heritage, the functioning of media processes, marketing communication in connection with state-of-the-art technologies and the digital society.

Well-prepared professionals should be able and also willing to be engaged in this topic – they should be engaged in scientific research, motivated to further explore the issue and able to present selected elements of tangible and intangible cultural heritage to selected target groups.

University students themselves recognize the importance of cultural heritage literacy. In interviews, the students often proclaim that they encounter the concept for the first time at university. A pilot survey in the form of an oral interview was carried out on a sample of fifty university students of the study programme Mediamatics and Cultural Heritage, offered at the Faculty of Humanities, University of Žilina. The survey yielded useful information that indicated a low level of familiarity with the concept itself, but also partly with the experience and expectations of the following generation of professionals. These professionals are aware of e.g., the extent of globalisation trends in the media space (but not only there), but also of the need to reinforce the regional/local principle within the framework of the aforementioned aspects.

The contexts of the preparation of future professionals working in the media and cultural sector or working within the media sphere were subsequently investigated using the questionnaire method (the online questionnaire contained a set of 15 questions and was designed from three groups of questions: open-ended questions (the respondents had the opportunity to freely, without any restrictions, formulate their opinion or attitude, respectively), closed-ended questions and a question that allowed expressing an attitude, satisfaction or experience on the so-called Likert scale of responses.

Students were asked the following:
- What study field they studied (either Media and Communication Studies or Teaching and Pedagogical Sciences)?
- How they perceived the term "cultural heritage"?
- From what sources they most often obtained information about social and cultural life of the society?
- In which media products they noticed a topic related to cultural heritage (students could provide a specific example)?
- How often and in which Slovak television they watched the news; whether they recalled a specific news topic related to cultural heritage (they were asked to specify the topic)?
- Whether and why they considered the presentation of cultural heritage in the media environment important?
- Whether in their opinion the media devoted a sufficient coverage to the topic of cultural heritage"?
- Whether they would be interested in engaging in activities aimed at the presentation of cultural heritage in the media environment?

The students were also allowed to provide specific suggestions. We tested the clarity of the questions, and the time required to complete the test on a small sample (more specifically – five students) of randomly selected students and then distributed it via e-mail with an accompanying text that explained the intention to all students of the Faculty of Humanities of the University of Žilina. These students were able to respond to it anonymously and the total number of respondents was 419. This is the generational cohort referred to as Generation Z, which, according to the study "Family News Talks: Deliberative Communication in Families" (Čábyová et al., 2023), receives most media content via mobile devices or computers (especially at school and in the evenings). The computer often replaces the television screen or vice versa. The TV screen serves only as a large display through which they watch movies and TV shows.

We investigated the nature of ideas that the students imagine within the term cultural heritage – whether students can capture this concept in a complex way or whether they can describe it in a more sophisticated way.

In both groups of students, we observe that they are able to assign correct associations to the concept. However, many of the students focus their attention only on selected elements connected with the topic of cultural heritage – within the students' statements, we noted the words such as "roots", "tradition", "Slovak", "heritage", "nation", i.e. associative links to cultural identity that cultural heritage presents.

Students find this identity in "customs, traditions, buildings, folk costumes, music, food" and they feel the need to protect and preserve cultural heritage for future generations. With regard to the topic, future teachers also use the word 'teaching' about cultural heritage that corresponds to our suggestions about the need for raising public awareness in this regard.

When describing cultural heritage itself, students most often used the following associations – "protected", "must be preserved", "wealth of the nation", "cultural roots", "history", "monuments", "must be popularized", "nation", "folk costumes", "folk songs and music", "traditions and customs", "traditional folk recipes", "spiritual objects", "ancestors", "transmission from generation to generation", "heritage and culture of our ancestors", "we must

protect", etc. Only some of the answers – mostly from the students of the study programme Media and Cultural Heritage – reflected a more comprehensive knowledge of the topic. More than half of respondents in both groups assume that the topic of cultural heritage is not sufficiently covered in the media and at the same time, more than 50 percent of the surveyed university students consider the presentation of cultural heritage in the media important. They also express a great willingness to be helpful in the media presentation of cultural heritage. It was rather surprising to find that a part of the respondents "did not care" and a large part (almost half) did not express this willingness in the media presentation of cultural heritage. As these are groups of respondents, one of whom will be working directly in media/ marketing and the other in education (as a future teacher), we consider it particularly important to raise awareness of this topic in appropriate ways, which partly emerged in the respondents' suggestions – appropriate, attractive and modern adaptation of topics (e.g., YouTube channel, experiential presentations, drone footage, etc.). It is not only for this reason that we consider it appropriate to approach this topic from the perspective of a more intensive use of the potential of media production.

4 Discussion

Considering the above-mentioned contexts, as well as the emphasis on an increased interest in cultural heritage, it can be suggested that media products with an implemented (directly or symbolically) reference to cultural heritage can be distinguished as a separate subgroup of media products with regard to their high social value. In our theory, they are referred to as "heritage media products" (in comparison with other media products, they have added value through which they communicate the values of cultural heritage and cultural identity). From global productions, successful films/ TV series that do not refer to history or cultural heritage in a direct way can be included – e.g., *The Da Vinci Code*, *The Witcher*, *The Crown*. A particularly interesting cinematic achievement is a lesser-known movie *Vitaj doma, brate!.* It is a prime example of the communication of cultural identity of (Lower Land) Slovaks via the medium of film. The storyline is fully tied to the Serbian town of Báčsky Petrovec and the community of Slovaks based in Lower Land (note: they were Slovaks living in the parts of former Hungary, Serbia and Romania inhabited by the Slovaks, which they colonised during the 18th-19th centuries) and the town of Báčsky Petrovec. The latter contributed with great commitment (e.g., financial and material support, personal involvement, featuring in the film, etc.) to the fact that Slovaks in the Upper Lands (i.e. the Slovaks living in the territory of the Slovak Republic) stopped saying that they did not even know that we existed. We sprouted from the same roots. It is time for us to start to learn about each other's branch (Častvenová, 2022).

Recently, there has been a significant increase in the share of video games containing topics and references to cultural heritage. There exists a controversy in relation to their accuracy in relation to history, and given the almost non-existent dialogue between video game developers, gamers, and cultural heritage professionals, there is little data about the accuracy in video games with implied cultural heritage, nor on whether this accuracy matters in video games (see also, Copplestone, 2016).

Media products that are cultural heritage *eo ipso* (in themselves) can be described as unique; in our theory, they are referred to as total heritage media products – e.g., selected parts of film production (Pitoňáková, 2023). Although audiovisual works (e.g., film) are not usually considered intangible cultural heritage, they are usually considered comprehensible and powerful media that are of great importance in mapping, documenting and preserving the traditions and histories of individuals and nations. Film cultural heritage can be included in this category, as it is distinctly different from other types of traditional art in its interconnectedness with technology and available technologies, and is distinctly different from other media products in its moral value and quality (however, this is not always the case).

For example, Slovakia, as a member of UNESCO, has also added Karol Plicka's important film work from the 1933 film *Zem spieva* (*The Earth Sings*) to the Register of Important National Films. This film poem (as the work is often referred to) depicts Slovak folk customs as an embedded record of folk traditions, games, ceremonies, dances and festivities from early spring to late autumn in Slovakia in the 1930s (ČSFD, 2022). In 2017, Radio and Television Slovakia brought attention to this film-poem, and it broadcast several series of the original and highly followed show with the identical title.

Young people in particular show a growing interest in social networks and in the Internet media. According to our survey, the Internet media and social networks are the most frequent source of information about the political, social and cultural life of society for university students (18 – 25 years of age). Young people pay much less attention to watching traditional media (such as print media, radio or television). They notice the topics of cultural heritage in various media genres (e.g., TV series, film, news, journalism, entertainment, music production, etc.) and formats including video games (*Tomb Raider*, *Field of Glory: Empires*, *Assassin's Creed*, etc.).

The concept of historical detective fiction (e.g., *The Da Vinci Code*) is particularly popular. This genre that combines elements of the detective story with a rich cultural context provides a unique opportunity not only to solve mysteries, but also to offer a deeper insight into the traditions, history and cultural issues of different societies at various stages of the historical development of society.

The problem remains that recipients often note the topic of cultural heritage, but especially in the case of news coverage, they do not recall a specific event/issue that was presented in the media product. In rare cases, they recall a story because it illustrated a "problem" – e.g., theft, fire, vandalism, etc. Therefore, it is necessary to consider recommendations not only towards a simple increase in the number of stories on this topic, but also the way of their processing that could be closer to respondents' expectations, but at the same time, to approach the topic in a way that prevents the loss of value.

In our research, we have identified the fact that respondents also notice the topic of cultural heritage in music production (e.g., musical groups/singers who exclusively or occasionally focus on historical themes). Some students associate the topic with video games (it corresponds to an increasing trend of interest in video gaming and also to an increasing number of history-oriented video games (in the context of a more detailed investigation, it would be necessary to examine whether the topic of cultural heritage is or is not confused by some respondents with the topic of history – including fictional (e.g., fantasy films)). Certain students associate the topic with its presentation through advertising spots and influencers, which could play an important role in the process of promoting cultural heritage due to their influence on the target groups. The topic of cultural heritage is present to a various degree and in various forms in media products of different genres – from news or film genres to advertising.

In this context, it is important to note that reflection on this topic depends on a recipient's possession of a number of skills, including the so-called "recognising advertising – this skill is related to distinguishing advertising from unpaid contents in other media products, such as television programmes, editorial content or web content" (Krajčovič et al., 2023, p. 124). At the same time, professional, planned and targeted handling of media products in line with audience expectations should be emphasized, as "overreliance on media logic and negligence of audience needs thwarts the effectiveness of media literacy policies, ultimately hindering their capacity to fulfil their intended objectives" (Rožukalne et al., 2023, p. 101).

5 Conclusion

In conclusion to the study on media production as a means for increasing cultural literacy and knowledge of cultural heritage, the following findings need to be highlighted in relation to the improvement of practice. The selected media production has a potential to contribute to the growth of the creative industries. At the same time, it has also potential to increase cultural heritage literacy by providing access to diverse cultural content and by presenting various perspectives as well. Media products can act as a bridge between the past and the present and certain products can disseminate the information that is related to cultural identity and cultural heritage. Technological advances and digital media create new opportunities for sharing cultural heritage. Virtual reality, interactive applications and multimedia projects allow users to experience history and cultural heritage in an authentic way.

The collaboration between cultural institutions, educational organisations and media companies can lead to innovative solutions for increasing Cultural Heritage Literacy. Study programmes that combine traditional educational methods with modern media can create synergies and can contribute to increasing cultural heritage literacy, leading to a better process of preparation of professionals for cultural practice and finally, they can contribute to the overall support for creative industries.

The study also highlights the need for a critical approach to media production in the contexts of commodified cultural heritage. The commodification of cultural heritage runs the risk of reducing its value to a commercial product, which may lose its original meaning and authenticity. A critical reflection on this process is essential in order to preserve integrity and respect for history and traditions. cultural heritage literacy plays a key role in the recognition and appreciation of authentic cultural expressions. It enables people to better understand and appreciate the diversity of cultural heritage without a superficial approach. Promoting cultural heritage literacy contributes to the sustainability and proper preservation of cultural values for future generations.

It can be said that media production is an effective, accessible and if it is properly set up, valuable tool for promoting cultural heritage literacy and knowledge of cultural heritage. However, success in this area depends on the cooperation of various actors (e.g., educational institutions, the media, media producers, educational institutions, cultural and tourism marketers) as well as on the quality of content produced and the cultural (and media) literacy of the recipients. From our perspective, it is essential to focus on training professionals working in the media and cultural sector as their level of cultural (heritage) literacy significantly influences their approaches and strategies for presenting cultural (or noncultural, respectively) values in practice.

The present study presents a basic conceptual setting for further, more detailed research that should focus on identifying the most effective approaches and strategies of the use of media production in order to support the objectives of cultural (heritage) literacy through media production.

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Opportunities for the Use of AI in Marketing Communication by Educational Institutions

ABSTRACT

Artificial intelligence has become an integral tool in various sectors, including marketing and marketing communication, offering unprecedented opportunities for enhancing efficiency and creativity. In marketing, AI's capabilities extend from automating routine tasks to providing deep insights through advanced data analytics, significantly optimizing decision-making processes. AI tools, such as natural language processing and machine learning, allow marketers to personalize content and strategies, thereby fostering stronger customer engagement and loyalty. These advancements are particularly beneficial for educational institutions, which often face resource constraints. By integrating AI into their marketing communications, these institutions can streamline their operations, enhance their public relations efforts, and more effectively target and engage with their student base and the wider community. This paper explores the diverse applications of AI in the marketing communications of educational institutions, highlighting its potential to revolutionize how these organizations interact with their audiences, manage their reputations, and ultimately achieve their communication goals.

KEY WORDS

Advertising. AI. Educational Institution. Marketing Communication. Public Relations.

1 AI in Marketing and Marketing Communication

Artificial intelligence (AI) in modern marketing refers to the use of artificial intelligence technologies to perform a wide range of marketing tasks and activities. It is the strategic integration of machine learning algorithms, natural language processing, data analytics and advanced multi-media technologies. This approach serves several purposes: increasing customer engagement through personalized experiences, improving decision-making processes using data and predictive analytics, and delivering more compelling and relevant multimedia content. The goal is to give marketing managers a deeper understanding of their target audience, drive customer engagement and loyalty, and increase conversion and revenue growth. With an emphasis on accountability and ethics, marketing using artificial intelligence is becoming one of the cornerstones of sustainable business (Knihová, 2024).

Traditional marketing might segment customers by demographics like age or location. AI, however, can create much more nuanced segments based on a wider range of data points, including purchase history, online behaviour, and social media engagement. With these customer segments in hand, AI empowers brands to personalize marketing messages accordingly. For instance, an e-commerce store can send targeted emails to customers who have abandoned shopping carts, offering them incentives to complete their purchase. This level of personalization ensures that marketing messages are relevant and engaging, increasing the likelihood of customer conversion. AI goes beyond static segmentation; it facilitates real-time personalization. This means marketing messages can be dynamically adjusted based on a customer's current interaction and behaviour. Imagine a customer browsing a travel website, looking at various destinations. AI can analyze this real-time behaviour and display personalized pop-up ads featuring special offers on hotels or flights for those specific destinations. Additionally, AI chat-bots on websites can personalize customer service interactions, providing product recommendations or answering questions tailored to the customer's browsing history. AI-powered personalization is revolutionizing the marketing landscape. Brands that leverage AI's data analysis capabilities, segmentation, and real-time personalization tools can create targeted marketing campaigns that resonate with individual customers. This fosters deeper engagement, builds stronger brand loyalty, and ultimately drives business success. As AI technology continues to evolve, the possibilities for personalized marketing are limitless. The future of marketing lies in creating genuine connections with consumers, and AI provides the tools to make that future a reality (Babatunde et al., 2024).

We can say that AI today plays a very important role in marketing and marketing communication because of the extraordinary potential and opportunities for business development, operations and communication. Đurić et al. (2023) define the following areas in which AI can be used in the marketing and marketing communication environments:
- Advanced market analysis and market trends forecasting – can predict future events, trends and periods of market crisis or emergence in the early stages;
- Advanced marketing research and competitive analysis – precise market segmentation and targeting; data about competition, its activities, comparison of strengths and weaknesses with the competition and how to adjust marketing strategy;
- Advanced analytics and Big Data Supply chain optimization-analyze large amounts of data, identify problems, provide solutions to optimize business which helps managers in effective planning and decision making;
- In-depth analysis of customer behaviour by discovering their hidden patterns and predicting future ones including individual and group;
- Personalization of communication;
- Automated offer generation – generate personalized offers for customers, which speed up the sales process and respond to customer requests;

- Automatic content generation – generation of different types of content such as articles, messages, instructions, blog and social network posts etc., and personalized advertising messages or email campaigns tailored to the target;
- Support in development of new products and services tailored to customer needs;
- Automation of some work processes and routine tasks such as sending emails, answering user questions, customer support automation, invoice processing tools etc.;
- Keyword optimization and SEO strategy – contribute to SEO analysis, higher marketing quality content and setting of an adequate strategy;
- Optimization of advertising campaigns with more effective advertising and sales -integrate the entire search and all online activities of users on numerous platforms, conduct predictive analytics; reduce the campaign investing cost;
- Analysis of social networks and optimization of social media campaigns - automate the management of social networks, monitor activities, analyze the impact of marketing campaigns;
- Increasing customer retention rate;
- Marketing automation – process based on a large amount of collected data with automatic performance of tasks which increases productivity, enables efficient targeted campaigns through multiple communication channels, ensuring a personalized experience for each user;
- Cost optimization – optimize the costs of advertising, logistics, development of new products and services, after-sales service;
- Advanced CRM systems.

1.1 Marketing Communication and Educational Institutions

In terms of the topic of our paper, we will take a closer look at the opportunities for using AI in the marketing communications of educational institutions, but first let us discuss the role of marketing communications in this environment.

Marketing communication in the conditions of educational institutions is understood as a dialogue, two-way communication between actual or potential customers (students), partners and the general public. The most frequently used tool of marketing communication of an educational institution is public relations. The task of public relations is to create a favourable opinion about the institution and its programmes. They inform the public about the launch of new products on the education market, help to build trust or, through some tools such as sponsorship, are used for further development needs. An educational institution can make use of all the means and tools of public relations in the same way as businesses use them. Greater use of event marketing is also coming to the fore (Matúš & Galera Matúšová, 2018). Nowadays, however, other tools of the communication mix, especially those with an overlap into the online environment, which is natural especially for the main target group of the educational institution – current and potential students, are added to the main communication elements of an educational institution.

Thus, when we look at the opportunities for using AI in the environment of educational institutions, it is necessary to take these tools as an opportunity to streamline the process. This is because educational institutions often suffer from a lack of staff capacity, as they often cannot financially afford a staff member whose job description is only to work in the area of marketing communications, and so often these are cumulative positions. AI thus provides a way to implement many communication activities with a minimum of staff, which we will present in our paper for the main communication disciplines that an educational institution can implement. As Knihová (2024) states, marketing departments can automate repetitive tasks such as email marketing, social media posting, and even advertising campaigns – not only for efficiency,

but also to provide a more personalized service to their customers. The technologies behind marketing automation make these tasks faster and easier.

If we talk about marketing communications of educational institutions, we cannot bypass the issue of educational marketing, which is a sub-category of content marketing and specializes in creating and distributing valuable educational content to customers who both value and welcome it. It aims to foster a lifelong emotional and psychological bond with the brand and repeated online and offline interactions between the customer and the brand over time (Knihová, 2024). In educational marketing, we can harness the power of artificial intelligence to make this vision a modern marketing reality. AI allows us to analyze customer needs and tailor content to be most relevant and valuable to them. In the context of AI, we talk about hyper-personalizing the customer experience. This combination of educational marketing and AI shows the future direction of the brand-customer relationship and represents a new era of personalised marketing.

2 Methods

The paper "How AI is shaping the future of school marketing" (Doverspike & Gleason, n.d). provides a theoretical perspective on the use of AI in this environment. We used the method of searching the available resources on this topic in scientific databases, analyzing this information, and comparing the findings from individual sources. We used secondary marketing research (desk research), namely by looking at the scope of educational institutions, its marketing communication tools and strategies and usage of AI technology in it. We used logical methods – analysis, synthesis, comparison and deduction, as well as methods of content analysis in the theoretical part of the paper.

On the basis of these and the practical experience of the authors, especially in the field of PR, we suggested the possible use of AI resources by educational institutions in the development and implementation of their communication strategy.

3 Results and Discussion

3.1 AI in PR of Educational Institutions

PR is a key tool for educational institutions, as through it they build relationships with their current or potential students, alumni, educators, as well as the professional community and even state or regional authorities. It is not just about communication alone, as it may often seem in connection with the discipline of PR. On the contrary, PR plays a key role in educational institutions in building and maintaining lasting relationships with different target groups, as we have already mentioned. That said, there are different perspectives on in which PR activities AI tools can be used.

Some of the uses of tools include (Gregory et al., 2023):
- Research and data analysis such as identifying journalists' topic preferences and analysing large amounts of audience data for purchasing and channel preferences, use of chatbots to collect and analyse data.
- Search such as keyword searches, video footage for themes and SEO.
- Transcription and summarisation of meetings, conference calls and of large documents.
- Content creation such as automatic writing of press releases and feature copy, blog posts, social media updates, text to audio and text to video.
- Audience identification and optimisation such as social media use and management, CRM systems and use of chatbots for data collection and customer experience optimisation.

- Channel identification and distribution, for example of press materials and stakeholder information.
- Monitoring and evaluation, for off and on-line media to provide insights and sentiment analysis across multiple platforms, demographics, and campaign performance.
- Relationship management with influencers, assist in crisis communications, monitor threats to organisations.
- Programme and campaign development and management including campaign planning and optimisation, workflow management, budget, and timeline management.
- Similarly, Penn (2020, as cited in Anani-Bossman et al., 2024) identified three main benefits of AI to the profession:
- Automation: public relations professionals can now automate repetitive tasks like media monitoring. Aside from taking over some of the tasks on the busy schedules of practitioners, automation is also enhancing the ability of practitioners to gain insight in a matter of seconds.
- Acceleration: practitioners can gain real-time information from the digital environment. For instance, when events occur quickly, AI can assist in gathering and sorting information in less time than it would usually take.
- Accuracy: practitioners can now accurately measure consumers' opinions and sentiments about an organisation and juxtapose them with other measures such as stock price, engagement or sales.

According to Maldonado (2020, as cited in Anani-Bossman et al., 2024), new skills such as user experience, big data analytics, and predictive artificial intelligence are necessary for public relations to compete with advertising and marketing and demonstrate its worth and effectiveness. Conversely, having cheaper, faster, and better access to relevant information is giving PR professionals the ability to focus on other activities such as creative thinking, strategic planning and instincts, which are all critical characteristics that a machine does not have. AI enhances productivity by optimising and automating repetitive processes, including monitoring news and social media, analysing trends, evaluating campaign performance, and reporting outcomes (Arief & Gustomo, 2020; Brotman, 2020; Brown-Devlin et al., 2022; USC Global Communication Report, 2019; Lopez & Ouariachi, 2021; Liew, 2021, as cited in Anani-Bossman et al., 2024). Arief and Gustomo (2020, as cited in Anani-Bossman et al., 2024) posit that AI enables users of big data to employ more advanced analytics, encompassing both predictive and descriptive skills, while also streamlining tasks (Anani-Bossman et al., 2024).

Türksoy (2022, as cited in Özdemir, 2024) has identified three main themes highlighting the potential of artificial intelligence applications to transform the public relations profession. Firstly, artificial intelligence will make public relations more efficient by helping professionals make data-driven decisions based on facts and trends. Secondly, artificial intelligence will make it easier to understand consumer preferences and habits, which will be frequently used to create customized content. Thirdly, the public relations profession requires social relationships, political connections, and emotional intelligence. Key activities in this profession include human assessment, intuition, reasoning, and empathy, which cannot be replaced by artificial intelligence (Özdemir, 2024).

Based on the above opportunities for using AI in PR, we see the opportunity for educational institutions to implement these tools in the following areas:

- Identification and inspiration of trends that can be topics for communication for educational institutions, not only in media relations, but also in communication on social media or other channels of the institution.
- More detailed use of media monitoring, not only in terms of own outputs, but also in terms of what is being written within the educational institutions sector and what the sentiment of the outcomes is. This also applies to social media monitoring.

- Helping to identify potential crisis events that may arise for an educational institution. Text-based AI tools can generate a number of risk areas based on their existing data that an educational institution can prepare for, for example, when creating a crisis communication manual.
- Content assistance with the creation of text outputs such as press releases, content outputs for internal communications or social media communications.

At the same time, it should be mentioned that the key discipline of PR today is reputation management. In this area, on the contrary, we see minimal potential for the use of AI tools, as authenticity, sustainability and continuity in the communication of an educational institution are required in building a positive image.

In an era where information can easily be disseminated and obtained by the public via the internet, the reputation of a company or organization can quickly be affected by negative news or rumours circulating on social media (Gregory, 2023, as cited in Juwita et al., 2024). Therefore, Public Relations must be able to respond quickly and effectively to crisis situations and take steps to minimize their negative impacts (Juwita et al., 2024).

3.2 Leveraging AI in Educational Institution Advertising

The revolution of artificial intelligence in advertising is poised to fundamentally transform how ads are created and how their effectiveness is measured, leading to significant reductions in production and research costs. However, with the promise of benefits and efficiencies, the question arises as to how dependent AI is on human intervention and also how it stands up in terms of creativity.

The advent of generative AI enables the production of text, audio, images, and video based on human instructions, significantly reducing the amount of human labour required and boosting productivity. AI tools also enhance the speed and cost-effectiveness of measurement. AI's analytical models can generate an almost instantaneous cycle of creative production, measurement, selection, and optimization of the most effective advertisements (Ostrožovičová, 2024).

AI employs Natural Language Processing, Image Recognition, Speech Recognition, Machine Learning, Natural Language Generation, and image and speech generation to help advertisers in various advertising functions, including ad optimization, automated ad generation, and personalization (Ford et al., 2023).

The role and applications of AI-enabled smart speakers and bots are also increasing in AI advertising. Marketers use smart speakers powered by AI, such as Alexa, Siri, and Google Assistant, to engage and interact with their target audience and deliver promotional messages innovatively. Brands are deploying AI chatbots with Natural Language Understanding and Machine Learning to understand consumer responses, gauge consumers' needs, enhance consumer-AI interaction, provide consumer support, and deliver promotional content (Lim et al., 2022). Improving the return on investment (ROI) of advertising is a critical concern for advertisers, and AI advertising has the potential to play a vital role in this regard (Rasul et al., 2022). By improving the targeting and personalization of advertising, AI can make advertising more effective and efficient, ultimately leading to a higher ROI for advertisers. Moreover, Generative Adversarial Networks and AI are used to create or merge realistic-looking images and videos of people saying and doing things they never did. They use deep learning and neural networks to transform the image or video of people in advertisements (Toews, 2020).

Educational institutions and prospective students share a mutual objective: to identify the optimal alignment between applicants' unique needs and strengths and the cultural environment and academic offerings of the educational institutions. To fulfil this objective the institutions

lean on to the best practices they can implement in order to ensure the sufficient income of students and also their satisfaction.

The use of AI in advertising by educational institutions has a wide range of possible forms, both in online and offline environments. There are several key applications of AI in advertising that have changed the way companies interact with customers and optimize their marketing efforts, educational institutions included:

- Personalisation of ads: AI can analyze large amounts of data about the interests and behaviours of prospective students or their parents. Based on this data, it can generate personalised ad campaigns that are more targeted and therefore more effective. For instance, HubSpot uses AI to segment audiences based on behaviour, interests, and demographics, enabling educational institutions to target specific groups with personalized ads or content. This increases the chances of reaching potential students and parents who are more likely to engage.
- Content creation: AI tools can be used in content creation for advertisements by streamlining the process and enhancing creativity. For instance, tools like ChatGPT can generate compelling ad copy tailored to specific audiences, while Canva can design visually appealing graphics with minimal effort. When using AI and conversational language models, the key to streamlining content creation work is to remember that the quality of the output is often a reflection of the quality of the input (Knihová, 2024).
- Advertising campaign automation: by leveraging AI, educational institutions can automate the creation and management of advertising campaigns. AI can optimize the timing and placement of ads to reach the most relevant prospects at minimal cost.
- Chatbots and virtual assistants: in offline and online advertising campaigns, AI-powered chatbots can improve interaction with prospective learners. Chatbots can answer questions; provide information about degree programs, and direct prospective students to next steps, increasing the chances of successful recruitment. AI-driven chatbots, like Drift or Intercom, can provide instant responses to website visitors' inquiries, improving user engagement and reducing bounce rates.
- Campaign success prediction: AI-powered predictive analytics can forecast customer behaviour, such as identifying potential churners, predicting lifetime value, or forecasting sales trends. By leveraging historical data and machine learning algorithms, marketers can make data-driven decisions, optimize their strategies, and allocate resources more effectively (Angelen & Siddik, 2023). AI tools like Google Analytics with AI integration can predict future trends in search behaviour, allowing educational institutions to adapt their content and marketing strategies proactively, staying ahead of competitors in search rankings.
- Content-targeted ads: AI can help create content that engages specific target audiences. AI-powered tools like Grammarly and Hemingway can help create clear, concise, and error-free content that is more likely to rank well in search engines. Additionally, AI-based SEO tools like Yoast SEO or SurferSEO can analyze content and suggest improvements to enhance keyword usage, readability, and overall relevance, thereby boosting search engine rankings.

3.3 AI and Social Media Platforms

AI has significantly transformed the way families interact with educational institution's advertisements, especially on social media platforms. Utilizing AI algorithms, such as those used by Meta, ads can now be precisely targeted to specific audiences based on their demographics, interests, and behaviours. This advanced level of personalization enhances the relevance and engagement of the ads, ultimately resulting in higher click-through rates and conversions.

Thanks to AI in digital marketing, parents who have shown an interest in education-related topics or share similar demographics with your followers on Facebook may be more likely to see your ads highlighting educational institution's unique features, showcasing success stories, or addressing specific concerns or questions that parents may have. (Doverspike & Gleason, n.d., "AI's Role in Digital Marketing" section, para. 2)

When examining various social media platforms, we can identify numerous AI features that effectively support users in creating advertisements:

Facebook Ads Manager (Meta)
Meta offers several features that can help users to get best results from ads:
- Audience Insights: Uses AI to analyze user data and suggest audience segments based on demographics, interests, and behaviours.
- Automated Ad Placements: Automatically places ads across Facebook, Instagram, Messenger, and Audience Network to maximize reach and impact.
- Dynamic Creative: AI helps generate different combinations of ad components (e.g., images, headlines, and CTAs) and shows the most effective versions to each user.
- Lookalike Audiences: Uses AI to find new potential customers who share characteristics with your existing audience.

An educational institution can use Lookalike Audiences to find parents and students similar to those who have already shown interest in the educational institution, making the ads more relevant and increasing engagement.

Instagram Ads
Educational institutions can promote various events to users who have previously engaged with similar content or who follow education-related accounts:
- Smart Targeting: AI-driven algorithms target ads to users who are most likely to be interested based on their past behaviour on the platform.
- Automated Optimization: AI adjusts bids and targeting parameters in real-time to improve the performance of active campaigns.

Google Ads
Educational institutions can use Smart Campaigns to promote its programs with minimal effort, allowing AI to handle most of the optimization:
- Smart Campaigns: Automatically creates and optimizes ads based on the information provided by the advertiser. AI selects keywords, targeting, and bidding to achieve the best results.
- Responsive Search Ads: AI combines different headlines and descriptions to create the best-performing ads.
- Google Display Network: Uses AI to target users across millions of websites and apps, ensuring ads are shown to those most likely to be interested.

LinkedIn Campaign Manager
Educational institutions can use LinkedIn's targeting features to reach professionals looking for executive education or advanced degrees:
- Matched Audiences: AI targets ads to specific professional groups, such as educators or administrators, based on their job title, industry, or company.
- Conversion Tracking: AI tracks how well ads perform in driving actions, such as registrations or inquiries, and optimizes for better results.

TikTok Ads

Educational institutions can use TikTok's AI tools to create engaging content aimed at younger audiences, promoting student life, and campus culture:

- Automated Creative Optimization: AI tests and selects the best-performing creative elements for different user segments.
- Interest Targeting: AI analyzes user interactions and engagement to target ads based on specific interests.

Optimized social media ads that target specific audiences are not necessarily a new idea, but recent developments in AI-assisted ads have shown they are more accurate than anything you might be able to create (Doverspike & Gleason, n.d.). These AI tools not only make it easier for educational institutions to promote their ads but also improve the efficiency and effectiveness of their marketing efforts, leading to better engagement and higher conversion rates.

3.4 AI and Educational Institution's Visibility and Search Ranking

Boosting visibility and search ranking is also crucial for educational institutions because it directly impacts their ability to attract prospective students and engage with their community. AI can optimize content for search engines, ensuring better visibility and higher rankings. Its tools assist marketers in streamlining content creation processes, enhancing efficiency, and maintaining consistency (Angelen & Siddik, 2023).

In today's digital age, most people turn to search engines and social media to find information, so a higher ranking ensures that an educational institution appears prominently when parents, students, and other stakeholders are looking for educational options. This increased visibility can lead to higher enrolment rates as more prospective students discover the educational institution.

- Search Engine Optimization (SEO): AI tools like Moz or SEMrush can conduct in-depth keyword research and competitor analysis, helping educational institutions to identify the most effective keywords for their target audience. These tools can also track search rankings and suggest strategies to improve them, such as backlink opportunities or content adjustments.
- Voice Search Optimization: With the rise of voice search, AI tools like AnswerThePublic can help educational institutions optimize their content to answer common questions that users might ask through voice-activated devices like Siri or Alexa, ensuring they appear in voice search results.
- Optimize the website for search engines**:** Ensure that the website is optimized for search engines by using relevant keywords and meta tags, creating high-quality content, and ensuring that the website is mobile-friendly.
- Encourage online reviews**:** Encourage parents, students, and faculty members to leave positive reviews of your educational institution on Google and other review platforms. Positive reviews can improve your search engine ranking and help attract more families to the educational institution.
- Use paid search advertising**:** Consider using paid search advertising, such as Google Ads, to target parents who are searching for educational institutions in particular area. This can be a highly effective way to improve the overall visibility and attract more potential families to the educational institution (Doverspike & Gleason, n.d.).

The Artificial Intelligence revolution in advertising will have a seismic impact in how we create ads and measure their effectiveness, and this could bring significant reductions in production and research costs. Yet without considered Human Intelligence these cost reductions could

come at a price of creativity and effectiveness (Sheridan & Howard, 2024). By leveraging these AI tools, educational institutions can improve their online visibility, ensuring that they attract more visitors to their website, engage their audience effectively, and ultimately achieve higher search engine rankings.

3.5 Ethical Aspects of AI in Marketing Communication

The ethical implications of artificial intelligence (AI) in marketing communication are multifaceted, encompassing concerns about consumer autonomy, transparency, and the potential for manipulation. While AI offers significant advantages in enhancing marketing strategies, it also raises critical ethical questions that must be addressed.

UNESCO identifies the following ethical challenges:
- Lack of transparency of AI tools: decisions made by AI are not always understandable to humans.
- AI is not neutral: Decisions made by AI are prone to inaccuracies, discriminatory outcomes, or bias.
- Procedures related to oversight of data collection and user privacy.
- Emerging concerns related to fairness and risks related to human rights and other fundamental human values (Ramos, n.d).

The use of AI has been regulated by the Artificial Intelligence Act, the world's first comprehensive AI law, which was adopted by the European Commission in March 2023. According to this legislation generative AI systems based on such models, like ChatGPT, would have to comply with transparency requirements (disclosing that the content was AI-generated, also helping distinguish so-called deep-fake images from real ones) and ensure safeguards against generating illegal content (Yakimova & Ojamo, 2024).

The motivation behind the AI Act is primarily to protect against the potential harmful effects of artificial intelligence and the misuse of new AI-based technologies. The legislation also aims to protect personal data and ensure transparency in the use of AI. Artificial intelligence is changing the nature of work, and although some tasks are being automated, many jobs are being designed to incorporate artificial intelligence as a tool to increase productivity and decision-making. There are also various moral issues associated with the use of generative AI tools in content creation and editing. In March 2023, PRovoke Media conducted a global survey of a sample of 406 communications professionals from different types of companies in terms of their size. According to the results of this survey, only 11% of companies have policies or guidelines in place for the use of generative AI tools, and another 35% of companies plan to implement them within the next 12 months (Galera Matúšová & Načiniaková, 2023).

4 Conclusions

In terms of other marketing communication tools, we see an opportunity for the use of AI by educational institutions in the field of direct marketing, as we have already written in the introduction about the possibilities of personalization, which can be applied to a large extent directly in the field of direct marketing, which is a simple and cost-effective tool for educational institutions to reach their primary target group, represented by current or potential students.

At the same time, as our article shows, from the point of view of marketing communication, artificial intelligence can be a great help for educational institutions, as it can eliminate the need for an independent worker for several sub-tasks in this area on the one hand (for example, creating texts or graphics), on the other hand, it will permit effectively reaching its target audience

based on tips and input from both textual and graphic aspects. However, it should also be borne in mind that there are areas within the individual marketing communication tools that an educational institution is not able to cover now using AI tools, as they require a human approach. Its implementation requires a balanced approach that combines the efficiency of AI with the strategic insight and creativity of human professionals. The future of marketing communication in educational institutions lies in this synergy, where AI serves as a catalyst for innovation and effectiveness, rather than a replacement for human expertise. While AI can enhance marketing effectiveness, its ethical deployment is crucial to prevent consumer exploitation and ensure responsible practices. Balancing innovation with ethical considerations remains a significant challenge in the evolving landscape of AI in marketing.

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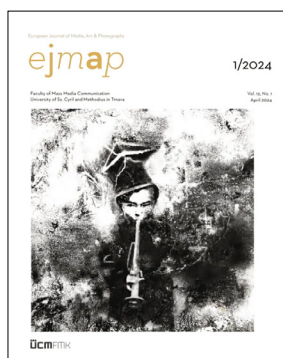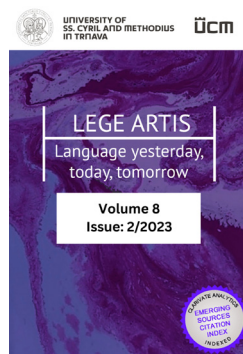
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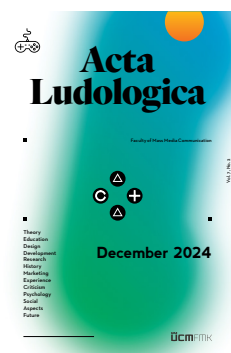
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