



COmmunication's ROugh NAvigations: 'Fake' news in a time of a global crisis

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Abstract

"Disinformation can cost lives" (Ursula von der Leyen, 2020).

The current pandemic of the novel coronavirus or COVID-19 has created an environment of diverse challenges facing humanity, including 'Stay at Home' global strategies, isolation, social distancing, school and border closures, and widespread travel bans. The risk of this biological threat, its multiple unknown health aspects, social and economic impacts, and the inability of humanity to control it at present makes it difficult to predict how this situation will evolve. Unfortunately, such a global crisis gives rise to the manipulation of people by opportunistic groups through the falsification of information and news reporting. Loosely moderated social media platforms have largely contributed to an explosion of news referred to as 'fake'.

Global occurrences like the current COVID-19 pandemic reinforce the importance of developing critical thinking skills in undergraduate students as a fact-finding strategy to address the rising popularity of misinformation and disinformation found on social media sites. Consequently, this paper aims to highlight the importance of building a capacity to recognise fake news while seeking out reliable and valid information sources. Strategies to address fake news by international and local organisations will be explored using examples from Greece and Australia, as both of these countries demonstrated strong government leadership in the swift containment of the virus. Greece was quick to impose lockdowns that were respected and dutifully exercised by the Greek people. Similarly, Australia also imposed strict lockdowns strategies in the initial stages of their first reported COVID-19 cases and were also dutifully enacted by Australian citizens. Greece and Australia have been proactive in addressing disinformation and misinformation through comprehensive data analytics and fact-checking strategies, which are reported on through official platforms.

Specifically, the authors aim to:

- Discuss the severe and even fatal problems that misinformation can cause, especially in the case of a global pandemic, like COVID-19,
- provide an audit and access to reliable sites,
- provide an outline of simple strategies that all individuals (including undergraduate students) can implement to source valid and reliable information surrounding the COVID-19 pandemic.

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I. Background

The United Nations Educational, Scientific and Cultural Organisation (UNESCO, 2020) provides the following definitions: Disinformation is information “that is fake and deliberately created to harm a person, social group, organisation or country”, while misinformation is information “that is fake but not created with the intention of causing harm”.

“Disinformation is understood as verifiably fake or misleading information that is created, presented and disseminated for economic gain or to intentionally deceive the public, and may cause public harm” (Action Plan against Disinformation, 2018, p. 1). Fake news¹ includes both disinformation and misinformation (Chong & Choy, 2020) and forms an exceptionally complicated research field, where multiple scientific and applied disciplines are involved (Katsaounidou et al., 2019). The Director-General of WHO declared a pandemic on 11 March 2020 at the media briefing on COVID-19. In conditions of a global pandemic, fake news constitutes a sad and harmful reality, as Ursula von der Leyen, the President of the European Commission stated. People’s fear, uncertainty and anxiety about the actual situation is often exploited by groups who think of this crisis as an opportunity to make an economic profit or undermine political and health strategies. Fortunately, many reliable international organisations have launched special social media pages and websites to provide information that ‘debunk’ these fake stories. Sites like Australia’s Corona Check website and Europe’s EUvsDisInfoCOVID19 (both of which will be discussed in more detail below), aim to provide people with evidence-based facts on user-friendly platforms.

Despite this, with the explosion of social media in the recent decade, this pandemic has been covered by a diverse range of authors and commentators, which include conspiracy theorists, high profile political leaders, social activists, religious leaders and all members of the community, sharing and accessing information across the web. On The ‘Conversation’s website, Ali and Kurasawa (2020) quoted Tedros Adhanom Ghebreyesus, the Director-General of the World Health Organization (WHO), as referring to the deluge of disinformation as the “corona virus infodemic”. The same authors state that these social media “platforms act as facilitators and multipliers of COVID-19 related misinformation” (para. 1). This level of accessible misinformation creates panic, division and ignites a level of fear that gives rise to racism, suspicion and xenophobia. In 2018’s *Nature*, Heidi Larson stated that “the deluge of conflicting information, misinformation and manipulated information on social media should be recognised as a global public-health threat” (p. 309). It is misinformation and disinformation that incite a public debate against life preserving medical approaches such as vaccines, which is causing one of the biggest disinformation debates during the COVID-19 pandemic.

The extent to which social media influences everyday life is captured by Arvanitakis (2020), an Australian Professor from Western Sydney University who states that “not only have

the ‘traditional’ media been overwhelmed with new media channels, social media is now a significant source of news for many of us” (para. 7). The Australian Centre for Media Transition 2018 report identifies how social media platforms “will have an ongoing and profound impact on the supply of news and journalistic content” (p. 10). Consequently, Rosenberger (2020), reinforces the importance of using a critical analysis framework to explore the challenges that social media news reports pose to democracy, through the manipulation of the truth. Chou et al., (2018) have identified the difficulty that health authorities face in managing the surveillance of massive volumes of online data covering public health issues, along with an associated growing body of misinformation and disinformation. Whether misinformation or disinformation become a ‘truth’ for some depends on “the recipient’s social network, sociocultural identity and values, emotions (particularly fear and anger), levels of trust, and concomitant social media use patterns” (Chou et al., 2020, p. 2418).

Currently, there is a lack of high-level scientific research into the causes, management and prevention of this pandemic. Garrett (2020, p 943) expands on this by stating that “sifting fact from inaccurate information is aggravated by the speed of unfolding events, how much is still to be researched and understood by scientists and clinicians about COVID-19, alongside earlier deliberate obfuscation by some governments”, with the latter having raised the level of distrust towards official agencies. As a result of the complex challenges associated with COVID-19 related misinformation and disinformation, the authors of this paper have based their investigation on:

- a) providing an outline of official government and health education websites to increase awareness of how and where to access reliable information
- b) the exploration of examples which highlight the significant dangers of misinformation and disinformation surrounding the COVID-19 ‘infodemic’ and
- c) proposing a simple fact-finding framework approach to evaluate the reliability of COVID-19 related health information circulating on the web.

This paper will use Greece (Europe) and Australia as examples of how these two countries have been successful in providing credible sources of information on the net. Additionally, the paper will provide a reference to official sites of the Greek and the Australian governments, the European Union, and international organisations such as the World Health Organisation (WHO), for the provision of current and valid information. Insight into official responses to emerging COVID-19 misinformation and disinformation will outline the process of how official government, health and education sites support individuals and communities to avoid the mass transmission of fake news through fact validation. Clear communication skills are pertinent to assist individuals in implementing informed decision-making skills with regard to health-related outcomes.

1 The term ‘fake news’ has been popularised by President Donald Trump since the 2016 elections (Victoria University, 2020). Since most of the current literature refers to the falsifying of information as ‘fake’, this article will refer to this term to represent the current trends in the literature.

In this current pandemic, the transmission of the same disinformation tends to cross borders, as will be demonstrated through the examples used in this paper from the Greek and the Australian COVID-19 health-related contexts. A typology and the type of responses currently provided for a range of main fake news that has emerged as a result of the COVID-19 pandemic will be discussed. It is the authors' belief that there are significant opportunities to learn from the examination of an array of reactions to this pandemic of misinformation and disinformation that will strengthen our collective responses now and into the future, providing a more sustainable management strategy through an informed public. The authors also suggest that in order to build an informed public, education institutions should focus on explicitly embedding the development of an individual's research skills capability across all aspects of a curriculum. In his interview for the *Journal of Applied Learning and Teaching*, George Siemens identified the need to develop a different skill set as we can no longer just simply "find the person who knows the answer to the problem" (Siemens et al., 2020, p. 4).

Today, it's about: are you able to not just access a distributed network of expertise, but do you have the skills to navigate contradictory opinions, false information? Do you have the ability to exhibit combinatorial creativity when you're taking multiple sources and to be able to create something different? (Siemens et al., 2020, p.4).

II. Methodology

The impetus for this paper emerged with the announcement of the governmental organisation 'Digital Single Market' on Facebook on 1 April 2020, an initiative developed by the European Commission to shape Europe's digital future. The introductory video on this site describes how important it is to separate facts from fiction and to rely on 'authoritative sources'. Viewers were encouraged to rely on authoritative sources such as the WHO or national health ministries to get up-to-date information. The European Commission is in close contact with social media platforms to fight fake narratives and help them identify and take down illegal content. Further to this, the European Commission has also launched the #factmatter page addressing myths around the coronavirus outbreak. The facts help keep people informed, safe and healthy #factmatter (European Commission, 2020).

For this cause, the official website of the European Commission has also launched a website and Facebook page to tackle misinformation and disinformation facts and provide an evidence-based rebuttal for readers to follow. Similarly, in Australia, the government has launched an official Facebook² page as well as a Twitter³ account to provide the evidence-based facts to a generation of social media followers.

As a result of the widespread social media coverage of COVID-19, a digital search of the most common disinformation and misinformation web pages was conducted between April 1st and May 5th, 2020 with the

purpose of identifying the most popular fake news and claims that have been circulating on a global context. This was then narrowed down to five fake news stories that have been the hot topics of discussion in Greece and Australia, respectively. These facts were further researched, to exemplify how and where the claims originated from, and how the Greek and Australian governments and health agencies have responded to these through official briefings on websites and other media outlets. A typology was then created to provide a list of official government and international health organisation sites, along with a list of online networks that exist which help with the verification of these stories and/or facts.

III. Disinformation Facts claims

Brennen et al. (2020), quoted Cristina Tardáguila, Associate Director of the International Fact-checking Network (IFCN), as saying that COVID-19 has been "the biggest challenge fact-checkers have ever faced" that has been propagated by social media commentators. A 2019 Australian study conducted by the News and Media Research Centre and led by Professor Caroline Fisher, found that only 36% of Australians checked the accuracy of a story, by accessing several other sources, before they shared it on social media. This is an alarming amount of people who are left potentially propagating misinformation/disinformation stories on social platforms. To combat the spread of disinformation in Australia, the Australian Broadcasting Commission (ABC) has collaborated with the Royal Melbourne Institute of Technology (RMIT) to launch a website and an online newsletter called Corona Check, to increase their social presence. Corona Check is a fact-finding website that raises the latest debunked disinformation on COVID-19. Equivalency for Greece and the EU is the EUvsDiSiNFO fact finding site. Section IV below will outline "How to avoid being misinformed", where more sites will also be provided to fact check the information that has been sourced on the net.

Giugliano (2020) states that although the COVID-19 pandemic has been claimed to expose poor leadership, poor health and education systems and incompetent governance worldwide, Greece has remained an exception to this trend. The same author explains how, despite having faced a longstanding financial and social crisis for over a decade, Greece's swift reaction through an effective government leadership style has helped the country avoid a tragic healthcare crisis. The people of Greece abided by the policies set out by the recently formed Mitsotakis government and has truly 'defied the odds' (Magra, 2020), with 168 reported deaths in a total population of 10,428,331 (Worldometer, 2020). Greece has triumphed with the way that it has managed the 'treatment' of the pandemic, with its swift reaction and strategic plan and avoided the tragic fatalities that other European member states experienced.

Likewise, Australia has had minimal fatalities and has been swift to flatten the infection rate curve and consequently reduce it quite markedly. At the time of writing, on 22 May 2020, South Australia had zero new cases for 15 days in a row. With a total population of 24.99 million people,

2 The Australian Government Department of Health have launched their own Facebook page to access the population through popular social media pages. Accessed May 15th 2020 from: <https://www.facebook.com/healthgovau/>
3 The Australian Government Department of Health have also set up a Twitter account: #Updates on COVID-19 Australia to use social media as a means of updating Australians on evidence-based facts. Accessed May 15th from: <https://twitter.com/124231141024522400>

Australia experienced only 100 COVID-19 related fatalities (Australian Government Department of Health official site, 2020). Wyeth (2020) has identified some of the reasons why Australia has performed so well: geographic isolation and immediate border closures contained the cases immediately. The author continues to explain how the people of Australia have an innate trust in their public institutions and trust between individuals within its society, accounting for the success of the coronavirus lockdown strategies.

However, despite the successful management of the pandemic by these two countries, fake news still inundates their social media pages, raising peoples' anxiety levels through the fear of the unknown. A recent survey conducted by Park et al. (2020) from the University of Canberra identified that at least two-thirds (66%) of Australians encountered COVID-19 related misinformation via social media. A Reuters study by the Oxford Institute for the Study of Journalism found that while politicians, celebrities and other public figures were responsible for producing and sharing 20% of fake statements about the new coronavirus, their posts accounted for 69% of the impact to the public through social networks (Brenan et al., 2020). Consequently, research conducted by Daniel Allington, a researcher in social and cultural artificial intelligence at King's College London, demonstrated that there was a statistically significant correlation between a belief in fake claims and citizens' tendency to ignore social distancing measures. According to his research, people who said they believed corona was connected to 5G antennas were less likely to stay home, wash their hands regularly or follow the rules of social distancing. Allington's 2020 research identified that COVID-19 related fake news fell into three categories:

- a) misleading health advice (e.g. drinking chlorine will make the virus disappear, anti-vaccine movement and microchipping of vaccines),
- b) the origin or the spread of the virus (e.g. 5 Gs, USA, China),
- c) the severity of the crisis (photos and videos out of context).

Five social media cases from Greece and Australia, each falling under one of the above categories, are discussed below as examples of COVID-19 disinformation.

A. Fake coronavirus cures and overestimation of some 'medical products'.

Fake 'corona cures' constitute a large percentage of the COVID-19 disinformation in Greece. The high demand for hygiene products driven by the COVID-19 outbreak has contributed to the promotion and sale of fake cures. The usefulness of some 'medical products' is exaggerated, with surgical masks being first on the list. In this case, not only is there reference to fake news, but also bogus medicines and health supplies. A global operation to track these bogus medicines took place between 3 and 10 March

2020, supported by Europol and coordinated by Interpol, involving 90 countries worldwide. Mercier (2020) claims that the more worrying aspect of fake news regarding COVID-19 and its potential cures is that the ingestion of recommended harmful substances can have fatal effects.

An example that was circulated via videos on Facebook was the selling of a bioresonance device that was being promoted as a successful treatment for the coronavirus (Σιτίστας, 2020a). According to the Ministry of Health, bioresonance is an "alternative therapy" with an effectiveness that is not scientifically substantiated (Sitistas, 2020a). Similarly, in Australia, celebrity chef Pete Evans was fined 25,000 AUD by the Therapeutic Goods Administration for trying to sell a bioresonance device that provided protection from the coronavirus (Scanlan, 2020). This disinformation claim is also an example of how celebrities can initiate and promote fake claims as a profit-making strategy.

B. People who smoke have little risk to be exposed to COVID-19.

A popular misinformation in Greece was the claim that people who smoked were 20 times less likely to become infected with the coronavirus (Sitistas, 2020b). This misinformation originated from a study conducted by Changeux et al., (2020), where the authors hypothesised that nicotine receptors on cells interfere with the normal pathophysiology of the COVID-19 virus. The authors of this inconclusive study did not intend to promote smoking as a means of decreasing the chances of COVID-19 infection; rather it was a hypothesis, or an idea that required further research. The researchers hypothesised that in controlled situations, nicotine itself could show some potential in decreasing infections. The authors of this study summarised by stating that "smoking has severe pathological consequences and remains a serious danger for health" (para. 11). The misinformation that smokers were much less likely to become infected with COVID-19 could lead to a dangerous overdose from nicotine replacement therapies as a means of protection from COVID-19. Here is an example of how a potential idea or hypothesis can be misconstrued to capitalise on people's smoking habits. This claim was debunked by WHO Director General Tedros Adhanom Ghebreyesus, who was quick to explain that "contrary to what people may believe, young people are not invincible and smokers are not immune" (BBC, 2020 para. 5).

C. The first volunteer to test the vaccine against the coronavirus died.

Elisa Granato, a researcher at the University of Oxford and the first vaccine volunteer against the coronavirus, was claimed to have complications a few hours after receiving the vaccine and died on arrival at the hospital (Koutroumpelis, 2020). This fake claim, as Koutroumpelis (2020) explains, was posted at various blogs and sites⁴ and on other social media posts. The Ministry of Health and Social Welfare of the UK announced in a tweet, that the misinformation, which was

4 Blogsites that announced the death of Dr Elisa Granato as a result of trialling the coronavirus vaccine (sinomosiologos.blogspot.com, diodotos-k-t.blogspot.com, kalliroi600.blogspot.com, spoilers.gr, skoupanews.com, amazonios.net)

circulating on social media, referring to the first volunteer in the vaccine coronavirus testing program dying in the UK was completely untrue. It also called on citizens to use available tools to verify sources of information before sharing it (Prifti, 2020), as a means of limiting the spread of disinformation. Section IV of this paper will provide an outline of how to avoid the sharing of misinformation and disinformation.

D. The rollout of 5G technology has contributed to the spread of the virus.

This fake fact has not only stirred up a lot of anxiety as Australia rolled out its 5G network in 2019-2020, but it is a source of fake news that has been spread globally. The claim that the 5G network is spreading the virus as the radio waves emitted by telecommunication networks such as 5G can compromise the immune system, has spread like wildfire across the net. The Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) carefully regulates high-power radio waves to ensure they are working within safety limits. The 5G infrastructure is also carefully regulated by the Australian Communications and Media Authority (ACMA), ensuring that all 5G emissions comply with the ARPANSA safety limits. 5G infrastructure and devices emitting radio waves are regulated by the Australian Communications and Media Authority (ACMA), and emissions must comply with the ARPANSA safety standard. This claim has also been debunked by many other fact-finding sites such as SNOPEs and Australia's Corona Check, along with several other sites listed in Table 1. The Snopes website page that covers the 5G conspiracy theory explains why such conspiracy theories arise from pandemics by saying that "people want to simplify and make sense of complex and unprecedented situations. As a means to understand this pandemic..." (Hill, 2020, para. 7).

Furthermore, people seek out stories that help to support their pre-determined biases. Psychologists refer to this as 'motivated reasoning' (Weir, 2020), where people seek to believe stories or information that support their own worldview. For example, the belief that autism is caused by vaccinations has occurred over the years due to an ineffectively designed study conducted in 1998 (South Australian Health Department, Autism Leaflet) that associated autism development with the measles-mumps-rubella vaccination. Despite the fact that this study was retracted from the medical journal it was originally published in, certain groups still hold firmly to this belief. Forbes (Salzberg, 2020) has stated that the WHO refers to these groups as "anti-vaxers" who demonstrate "vaccine hesitancy" which poses to be one of the greatest threats to health in these current times. The COVID-19 anti-vax conspiracy theory is discussed further in the following disinformation example.

E. A consortium developing COVID vaccine and led by Bill Gates, will contain a microchip for mass surveillance.

In 2014 Bill Gates wrote an article for the *New England Journal of Medicine*, in response to the Ebola outbreak which affected Sierra Leone, Liberia and Guinea. He explained how lessons

learnt from the epidemic of the Ebola virus outbreak, could help governments identify the weaknesses in their medical systems and medical reserves. He highlighted the need for a more effective world health strategy for countries to better manage and prepare for a possible future pandemic. This was reinforced in his 2015 TedTalk (Gates, 2015), titled *The next outbreak? We're not ready*. Members of the right-wing conspiracy group Qanon (Elise, 2020) have used the fears of groups such as the anti-vaccination groups to promote the fact that Bill Gates' intention is to gain control of the global health system, through the development of a COVID-19 vaccine. Johnson et al. (2020) revealed in their study of over three billion Facebook users that the anti-vaccination network clusters became more highly entangled, as opposed to pro-vaccination clusters that were more peripheral on social media posts. A systematic review undertaken by Wang et al., (2019) revealed that there was a significantly higher prevalence of disinformation surrounding the issue of vaccinations on social media as compared to the number of stories which contained accurate vaccination information. The COVID-19 'infodemic' has thus sparked a popular anti-Bill Gates sentiment with the anti-vaccination groups.

The Bill and Melinda Gates Foundation is a hugely charitable organisation that provides medical aid to developing countries, through their Global Health Division. This division aims to eradicate infectious diseases in children through widespread vaccinations in underprivileged communities, igniting the Gates and COVID-19 vaccination disinformation. The future COVID-19 vaccine has also been associated with the placement of a Radio Frequency Identification Chip that will exert population control (Reuters Fact-Check, 2020). On the Snopes website (Kasprak, 2020), the Bill Gates conspiracy theory of microchipping vaccines as a means of population control has been debunked through an evidence-based narrative. Further to this, the Australian Corona Check website has also warned readers to be aware of a photo being circulated on social media, showing a sign outside the Bill and Melinda Gates Foundation headquarters which reads: *Centre for Global Population Reduction. Corona Check* website has confirmed that this photo has been adjusted and added through photo editing tools.

So how and why do these fake stories with negative health outcomes like the ones discussed above become such topics of engagement on social media platforms? This is a complex process which requires further research on "the understanding of socio-demographic and ideological asymmetries in the intention to spread misinformation" (Wang et al, 2019 p. 8). There are some major forms of misinformation and disinformation agents. The 'denialists' who reject and mistrust authoritative information, those who view major social or political events as conspiracies against individualism, referred to as the conspiracy theorists, and partisanship with allegiance to certain political groups or figures (Uscinski, et al., 2020). Furthermore, Brennan et al., (2020) found that the majority of the disinformation posts on social media were stories that re-fabricated accurate information, with a lesser amount relating to a total fabrication of a situation. These authors also found that the spread of disinformation occurred more so from a bottom-up approach, meaning shared and generated from the general public, as opposed to a top-down approach which

originates from prominent public figures.

Rimal & Lapinski (2009) provide us with detailed insight into the importance of health communication in relaying public health messages through various mediums and channels to deliver clear messages to diverse communities. As communication is central to all that we are as human beings, these authors describe how health information is shared through social networks interacting with one another in a variety of online and offline formats. It is for this reason that the construing of information during a pandemic becomes a central challenge to health, education and government departments alike. The April 2020 Communication Report of the European Commission on tackling online disinformation emphasised the key role played by civil society and the private sector (notably social media platforms) in both tackling the problem of disinformation through clear communication. In 2018, The European Council had already called for measures to "protect the Union's democratic systems and combat disinformation" (6 European Council conclusions, 18 October 2018). The Action Plan against Disinformation (2018) highlights the importance of cooperation as a means to deal with events of misinformation. These include:

the Commission and the High Representative, with the assistance of the European External Action Service, in cooperation with Member States and the European Parliament, a plan that includes input received from Member States, discussions at Council, in Permanent Representatives Committees I and II, the Political Security Committee, relevant Council working parties and meetings of strategic communication and political directors of Ministries of Foreign Affairs, not to forget taking into account the cooperation with the Union's key partners, including the North Atlantic Treaty Organization and the Group of 7 (G7) (Action Plan against Disinformation, 2018).

Australia has also responded to the need for a united and cohesive approach to the communication efforts during the COVID-19 pandemic. The Prime Minister of Australia formed the National COVID-19 Coordination Commission (NCCC) to manage the public health and social issues associated with the pandemic. Along with Australia's Chief Medical Officer, NCCC provided regular updates on the government and the health department's dynamic response to the pandemic with daily updates on social media and television. To ensure a streamlined communication strategy, a National Cabinet was also formed, which comprised the premiers of every state of Australia along with the territory chief ministers (Saunders, 2020). The Parliament of Australia website states that fake news is identified "*as a major threat to democratic and social institutions.*"

IV. How to avoid misinformation and disinformation.

"Disinformation is playing with people's lives. Disinformation can kill" (Borrell, 2020).

The EEAS Strategic Communications and Information Analysis Division report on COVID-19 gives us an idea of the current trends and insights into disinformation activities related to COVID-19. On 1 April 2020, the EEAS special report update stated that "evidence shows that online platforms continue to monetize COVID-related disinformation and conspiracy theories" (para. 2). They refer to examples from an EU and global context that seek to exploit the public health crisis in order to advance their geopolitical partisanship interests, often achieved by directly challenging the credibility of the European Union and its partners to confuse its citizens. For example, the EEAS also reported that pro-Kremlin Russian media outlets cover conspiracy narratives that claim the virus was man-made or that washing hands does not help in containing the virus. This is contrary to one of the main disease control strategies that have been promoted by the WHO and endorsed by health officials across the world.

The Australian Strategic Policy Institute has uncovered "a loosely controlled pro-China trolling campaign on Twitter" (Thomas & Zhang, 2020 p. 1), which has harassed western media outlets, spreading false information about the COVID-19 outbreak and undermining Taiwan's strained relations with the WHO. Although these authors state that there was no clear evidence linking these posts to state support, this type of trolling appeared to support China's geopolitical strategies and was most likely linked to the actions of partisan actors trying to defend China's handling of the coronavirus outbreak. Interestingly, articles that saw the most significant engagement numbers on EUvsDiSiNFO (EUvsDiSiNFO, 2020) claimed that the virus was manufactured by the United States. Articles from 22 January until 1 April 2020, presented by EUvsDiSiNFO on 1 April 2020 (215 results), classified this information based on different countries and the number of disinformation cases that appeared. EUvsDiSiNFO presented each of the above cases with a summary of what was considered to be fake news with an explanation disproving these stories. One particular story with the title "EU has failed in Greece, Spain and abandoned Italy" (EUvsDiSiNFO, 2020b) claimed that the European Union failed to solve the economic crises of Greece, Italy, and Spain, leaving Italy mired in the coronavirus pandemic with little if any relief. This information was highlighted as misleading and fake with information confirming the EU's 47.5 million euro as financial support of research projects to improve epidemiological and public health efforts surrounding COVID-19.

Extensive misinformation on the internet is a serious cause of concern. Fake content is disseminated and often goes viral because of its influential and emotive nature, which encourages people to share more widely (Katsaounidou et al., 2019). Nevertheless, it is not merely a question of simply knowing that there is a case of misinformation and/or disinformation, but equally as important is being aware of how and when to report it. Owen (2019) explains that there is

a tipping point when it comes to reporting on disinformation. Reporting too early gives unnecessary oxygen to rumours or misleading content that might otherwise fade away. Reporting too late means the falsehood takes hold and there is nothing to do to stop it (it becomes a zombie rumour — those that just won't die). Consequently, the timing of when to report fake information plays a crucial role in relation to its continuity. People at large should always be alerted on the influence of such topics, where disinformation could even have life-threatening consequences.

The crucial questions which therefore need consideration are:

- 1) What strategies exist to limit the potential of becoming misinformed? And:
- 2) How can evidence-based information be accessed and then trusted to provide reliable sources?

Wang et al. (2020) identify that although efforts to moderate and retract disinformation on social media can be effective, this approach can also ignite more activism from the disinformation agents. Instead, they recommend that “a more constructive approach may be to cultivate critical thinking and to improve health and media literacy, thereby equipping individuals with the faculty to critically assess the credibility of information” (p. 8). In this way, freedom of speech and opinion for all can be maintained without the tight control of social media content while building the capacity of individuals to critically seek and evaluate potential errors of fact that may be encountered in various forms on the internet.

To assist individuals in their search for reliable and valid information in the process of critical thinking, the official EU site (European Commission, 2020) that manages disinformation provides some guidelines to communities by suggesting that individuals should follow the advice of their public health authorities. Interestingly, this same site also provides a full list of national information resources for the public on COVID-19 (ECDC, 2020). Additionally, as far as Greece and Australia are concerned, the national authorities and public health agencies websites, such as the eody.gov.gr/ (National Public Health Institute of Greece) and the Australian Health Department provide a comprehensive list of links to official sites handling every aspect of the pandemic.

Further to this, Table 1 below provides links to pages from EU, Greece and Australia, including global organisations such as the WHO, as a means of sourcing reliable data on the actual situation of this global crisis. Using the Smithsonian Institute (Thulin, 2020) guidelines and the University of Adelaide's (UoA) Source Credibility Criteria (The University of Adelaide learning guide, 2014), for evaluating the validity of facts, the authors undertook a desktop analysis, leveraging official and government sources, to provide a timely map at the time of publication of the EU and Australian responses to COVID-19 Misinformation and Disinformation.

Based on the Criteria used for Evaluating Electronic Sources on the Net (adapted from UoA's Credibility Criteria Handout), the following questions can easily be adapted not only by students, but by all members of the public to undertake a fact-checking mission of their own:

- Who is responsible for the site? If it is an organisation, does it have a credible history? Is it generally known? Does it have any political affiliations?
- Is there an official logo on the site?
- Is there a link to the homepage that describes the organisation and their activities?
- Are contact details provided?
- Are the facts and the evidence clearly presented to the reader?
- Who is/are the authors of the content? Are they experts in the field? Can you search them to find out their background and affiliations?
- Do the authors have a conflict of interest?
- Is the site sponsored by a private company that may provide biased information?

Furthermore, Willison & O'Regan's (2006-2012) Research Skills Development Framework (RSD), provides educators and students with a rubric covering a 6-Step Process that explicitly guides the building of critical research skills through a scaffolded pedagogical approach.

The RSD steps are as follows:

1. Clarifying and Embarking on research
2. Finding and Generating required data
3. Evaluating and Reflecting on degree of source credibility
4. Organising and Managing to reveal patterns or themes
5. Analyse and Synthesise to develop coherent understandings
6. Communicate and Apply understandings and application of research.

WHO also provides a link of regional offices (<https://www.who.int/about/who-we-are/regional-offices>) where valid information on COVID-19 can be found. Valid information for Europe can be found at <http://www.euro.who.int/en/home>.

From a researcher perspective, Katsaounidou et al. (2019) present a browser extension, the True News Plugin that evaluates news authenticity in a multimodal, integrating and collaborative way. With this extension, a user reveals information from trusted sources, classifying them by the accuracy of their domain names, while also spotting

Table 1: Sample of government and official websites, and social media pages where valid information about COVID-19 can be accessed.

Sites treated	Links to the Sites
European Commission official pages	https://europea.eu/european-union/about-eu/institutions-bodies/european-commission_en https://www.facebook.com/EuropeanCommission/ https://ec.europa.eu/digital-single-market/en
European Centre for Disease Prevention and Control	https://www.ecdc.europa.eu/en/novel-coronavirus-china/sources-updated
European Centre for Disease Prevention and Control	https://www.ecdc.europa.eu/en/covid-19-pandemic
European Commission	https://ec.europa.eu/info/live-work-travel-eu/health/coronavirus-response/fighting-disinformation_en
EEAS (European Union External Action - Europa EU)	https://eeas.europa.eu/ https://euvidinfo.eu/
World Health Organisation	https://www.who.int/emergencies/diseases/novel-coronavirus-2019 https://www.facebook.com/WHO/
Greek Governmental official sites	https://government.gov.gr/ http://www.visitgreece.gr/en/home/about_covid_19 https://www.facebook.com/coronavirus_info/
Ministry of health in Greece	https://www.moh.gov.gr/ https://www.facebook.com/YrPyGGR/
Ministry of health and social solidarity	http://www.ermis.gov.gr/
WHO in Greece	http://www.euro.who.int/en/countries/greece
National Public Health organisation	https://eody.gov.gr/
Greek Ministry of Foreign affairs	https://www.mfa.gr/index.html
The Greek Prime Minister	https://primeminister.gr/
Australian Government Department of Health	https://www.health.gov.au/resources/collections/novel-coronavirus-2019-nCoV-resources/find-the-facts
Australian National Government Department of Health	https://www.health.gov.au/news/health-alerts/novel-coronavirus-2019-nCoV-health-alert/coronavirus-covid-19-current-situation-and-case-numbers-in-australia
Australian State Government Health Department sites	https://www.nsw.gov.au/covid-19/community-resources https://www.sahealth.sa.gov.au/wps/wcm/connect/public+content/sa+health+intern et/conditions/infectious+diseases/covid+2019/community+information+for+the+co mmunity+-+covid-19 https://www.vic.gov.au/organisation/department-of-the-premier-and-cabinet/covid-19-coronavirus-community-advice https://www.dhhs.vic.gov.au/victorian-public-coronavirus-disease-covid-19 https://www.coronavirus.tas.gov.au https://www.qld.gov.au/health/conditions/health-alerts/coronavirus-covid-19/find-the-facts https://www.covid19.act.gov.au https://coronavirus.nt.gov.au/
Council on The Aging (COTA) Tasmania	https://www.cotatam.org.au/news-items/coronavirus-covid-19-advice/
Musculoskeletal Australia (MSK)	https://www.msk.org.au/covid-19/
Diabetes Australia	https://www.diabetesaustralia.com.au/about-covid-19
SA Health Facebook	https://www.facebook.com/sahealth/
Commonwealth Scientific and Industrial Research Organisation (CSIRO)	https://www.facebook.com/CSIROnews/ https://www.csiro.au/en/Research/Health/Infectious-diseases/coronavirus
South Australian Health and Medical Research Institute (SAHMRI)	https://www.sahmri.org/covid19/
National COVID-19 Clinical Evidence Taskforce: Monash University	https://covid19evidence.net.au
University of Melbourne: School of Population and Global Health	https://mspgh.unimelb.edu.au/centres-institutes/centre-for-health-equity/research/cve-covid-19
UNESCO Building peace in the minds of women and men	https://en.unesco.org/news/covid-19-check-facts
Smithsonian Magazine (Smithsonian Institute)	https://www.smithsonianmag.com/science-nature/how-avoid-misinformation-about-covid-19-180974615/
John Hopkins University & Medicine: Corona Virus Resource Centre	https://coronavirus.jhu.edu

possible misinformation through doctored images. The user can identify relevant information regarding the five clues, which frame a news story (Title, Date, Creator, Source, Containing Images). For Katsaounidou et al. (2019, p. 11), "...discovering the dedicated steps to indicate fake content, according to the fact-checking procedures, and utilize them in automated/semi-automated mechanisms, is the key to defend the truth." In the EEAS report (2020), there is a strategy to protect information and media freedom, when platforms try to increase the visibility of the WHO and other authoritative health content on their services. It might also be important to mention that European External Action Service (EEAS) on its internet page also proposes a link for people to share their personal experience, sharing feedback in an effort to control fake news.

Additionally, platforms like Facebook have adjusted their content policies in response to COVID-19 by working closely with organisations such as the WHO to help contain the spread of disinformation. More particularly, Facebook announced (Jin, 2020), it will ensure everyone has access to accurate information and will remove harmful content. Facebook currently partners with fact-checking organisations in 76 countries and regions, notifies the users that have interacted with the fake post and then reduces the content's visibility (Mandas, 2020). Valentinos Tzekas, a 20-year-old student from Larissa, Greece, created a FightHoax.com

algorithm with the ability to scan in seconds any kind of information written on the internet, deciding whether it is a misleading news story or real news (Chrysopoulos, 2017).

Furthermore, a number of initiatives and networks, cited by Katsaounidou et al. (2019), and presented in the table below (Table 2), assist in the process of checking credibility of information for possible misinformation and disinformation cases.

Table 2: Initiatives and networks, treated by the authors of this article, presented by Katsaounidou et al. (2019), which can help us check stories for possible misinformation and disinformation.

Networks for information Verification	Links
International Fact Checking Network (IFCN)	https://www.povinter.org/ifcn/
First Draft News	https://firstdraftnews.org/
Truly Media powered by Truth NEST	http://www.truly-media/ https://www.truthnest.com/
Image Verification Assistant	http://reval-mklab.iti.gr/reval/
Forensically	https://29a.ch/photo-forensics#forensic-magnifier
Ghiro	http://www.setztiro.org/
Photo Detective	http://metamventions.com/photodetective.html
Ampeid Authenticate	https://ampeidsoftware.com/authenticate
JPEG Snoop application	http://www.impulseadventure.com/photo/jpeg-snoop.html
Amber Video	https://ambervideo.co/
InVID	http://invid.condat.de/
Iverify	http://www.iverifysecurity.com/solutions/video-verification.html
Amnesty International	https://www.amnesty.org/en/
Citizen Evidence Lab	https://citizenevidence.org/
Storyful	https://storyful.com/
Montage	https://montage.meedan.com/welcome
Tweet Verification Assistant	http://reval-mklab.iti.gr/reval/fake/
IKAR Lab	https://speachpro.com/product/forensic-analysis/ikarlab
"True News" extension	https://github.com/selfagency/bs-detector
Browser extensions	
B.S Detector	https://github.com/selfagency/bs-detector
Open Sources Repository	http://www.opensources.co/
Fake News Guard	https://chrome.google.com/webstore/detail/fake-news-guard-ymebwfmcmzmmecdcopidndhazbech
Fake News Detector	https://chrome.google.com/webstore/detail/fake-news-detector-asbailmesdenajicfmmdfmcoobahap https://chrome.google.com/webstore/detail/fake-news-detector-alomdfufybasagelmndokilbjicbacahk
RevEye	https://chrome.google.com/webstore/detail/reve-reverse-image-search-ksacjchbbhpnphmupkialtheler?hl=en
Check Databases	
Google	https://www.google.com/
TimEye	https://tineye.com/
Bing	https://www.bing.com/
Yandex	https://yandex.com/
InVID	https://chrome.google.com/webstore/detail/fake-video-news-debunker-nhkcpcpafdebnhthkcmekmdkeenhe?hl=en
Send to Exif Viewer	https://chrome.google.com/webstore/detail/send-to-exif-viewer-zozienhpamfmodmhbhdickkianpfk?hl=en
Instant Snopes Checker (Unofficial)	https://sco.el.Ulvizh
First Draft News Check	https://chrome.google.com/webstore/detail/firstdraftnewscheck-lapockpeasamklkhasilqacledilb?hl=en
Greek Hoaxes Detector (in greek)	https://sco.el.Ulvizh
Ellinika Hoaxes (in greek)	https://www.ellinikahoaxes.gr/

Furthermore, Carmichael & Spring (2020) provide some user-friendly guidelines that can assist readers in reflecting on the stories they read on the web to avoid becoming viral distributors of misinformation and disinformation themselves. They ask readers to:

1. Stop and Think
2. Check the Source
3. Could it be Fake?
4. Unsure whether it's true? Don't Share.
5. Check each fact individually.

A special research team of EUvDiSiNFO specialists treats the urgency to separate facts from fiction and disclose harmful disinformation. The fight against disinformation is proposed as a joint effort involving all European institutions (European Commission, 2020, para. 3). Collectivity and collaboration is eventually a very important weapon for the fight against misinformation and disinformation. The EU is actually working in close cooperation with online platforms that the EU encourages to promote authoritative sources, demote content that is fact-checked as fake or misleading, and also take down illegal content or content that could cause physical harm (European Commission, 2020, para. 3).

Although it is beyond the scope of this paper to discuss the role of journalism in the curation of facts and the role of censorship that could arise from the curation of information shared on social media platforms, the crucial role that journalism plays in the sharing and 'offering' of information should not be omitted. The role of experts in the field, journalists and other media professionals are an important source of providing 'valid' information. In addition to improving fairness in reporting news, media professionals and journalists should always be wary of anonymous sources. "In this era of fake news, the tenets of good journalism have never been more vital. Starting with fairness, reporters should analyse and fact-check their stories" (Ehrlich, n.d.).

For Berger (2020), Director for Policies and Strategies regarding Communication and Information at UNESCO, improving the supply of truthful information, and access to information from official sources, is very important to improve credibility and fight disinformation. Reid & Sands (2016) present a simple way to check the history of a picture on the Web by reverse image search (a content-based search driven by the visual data and not by text), proposing some popular reverse image search engines like Google Image, TinEye, Bing, Yandex and Baidu.

Fact-checkers can help sort fake from true material and accurate from misleading claims (Brennen et al., 2020). The International Fact-Checking Network and the Australian Fact Check are also sources to check information. As mentioned previously in this paper, Snopes is also a website whose main aim is to fact check investigative reporting and provide facts based on evidence. For COVID-19, they source all the facts that have been reported by journalists and news media, highlight the sources of misinformation through data analytics, the danger they could pose to individuals and communities, and provide the evidence that backs up their arguments.

V. Conclusion

The COVID-19 pandemic has seen an explosion of fake news being propagated around the world, causing a new 'infodemic' with negative impacts on the psychosocial well-being and general health outcomes of consumers. Agents of fake newsgroups such as conspiracy theorists, denialists and partisanships are now taking advantage of the masses who have become more reliant on social media for news reporting, in times of COVID-19 social isolation measures. In challenging times like these, it is easy to be driven by

emotions and lose clarity of critical thought. For Huw (2018), as the technology used to create fake news gets cheaper, easier to use, and more sophisticated, fake news will continue to be a problem to society. It is critical then for educational programs across diverse contexts to focus on the building of an individual's capacity to confidently seek credible information, and as a result develop into a more well-informed global citizen. It is important for education, health, and government agencies to inform communities of the opportunistic trolling activities that can occur on social media platforms. It could also be the role of education agencies to make provisions for the development of fact-finding skills within their local communities.

This paper has provided a brief outline of the complex and multi-layered COVID-19 misinformation and disinformation processes. It has presented an initial discussion on the way fake news is generated, propagated and then, debunked through various official websites. The authors believe that it is not only the responsibility of governments, health and education agencies to help individuals become aware of the negative health impacts that can occur with the propagation of fake news, but that each citizen assumes responsibility to seek out information that can be verified.

There is a simple strategy that could be adopted: if there is doubt or uncertainty surrounding a news story, or if emotion is the underpinning driver, these stories require further investigation and confirmation before sharing on social media. Secondly, the use of an investigative mindset following the simple steps as outlined in this paper can assist individuals to source evidence-based health facts from the myriad of official sites and collaborative fact-finding groups that have been covered in this paper, and discussed through examples from Greece, Australia and other international organisations. Although the authors recognise that not all individuals may have access to technology and/or the skills required to undergo a critical investigation into potential fake news, this paper encourages all individuals to inform themselves through the credible sources of information other than social media outlets, and to make others aware of potential fake news that could have adverse health effects.

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