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OPINION ARTICLE

Rethinking Global Citizenship and Sustainability

Eight Working Hypotheses

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Introduction

As the UNESCO Chair in Global Learning and Global Citizenship Education at UCLA and as an Honorary Fellow of the Comparative and International Education Society (CIES), it is a pleasure to present here some of the working hypotheses and arguments on global citizenship and sustainability that I have presented in books on the subject (Torres, 1998; 2017).[2]

These hypotheses, once they have been tested through logical and empirical analysis, may eventually become a theory. For the Frankfurt Schools theorists, one criterion for a critical theory is that it be *explanatory, practical,* and *normative.* For Horkheimer, a theory is also *critical* to the extent it seeks human emancipation, "to liberate human beings from the circumstances that enslave them" (Horkheimer, 1982, p. 244).

As background for those who are unfamiliar with my work, my theoretical research focuses on: the relationship between education, culture and power; the interrelationships of economic, political and cultural spheres; and the multiple and contradictory dynamics of power that make the field of education one of continual conflict and struggle. My work, if

1 Presentation to the panel of Honorary Fellows of CIES, 2019 Annual CIES Conference, San Francisco, April 17, 2019.
2 The books were translated into several languages. The *Theoretical and Empirical Foundations of Critical Global Citizenship Education* was translated into Portuguese in 2023 and into Chinese in 2025 (with a new preface for this edition).

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it can be summarised in a sentence, studies the relationships between education and power at multiple levels of interaction.

The concepts of Global Citizenship Education and Sustainability are intimately related to the narrative constructed by the *Millennium Development Goals* (United Nations, 2000), the *Global Education First Initiative* of UN Secretary General Ban-Ki-moon (United Nations, 2012) and the *Sustainable Development Goals* (SDG) (United Nations, 2015), the latter representing synthesis of and improvement on the two previous documents. As I see it, the SDG represents the first global utopia of the 21st century.

First working hypothesis

There is an elective affinity between global citizenship and sustainability.

Weber uses the notion of elective affinity in *The Protestant Ethic* but it appears also in several of his other writings, mainly those concerning sociology of religion. Michael Löwy identifies *elective affinity* as a process through which two cultural forms (religious, intellectual, political or economic) that have certain analogies, intimate kinships or meaning affinities can enter into a relationship of reciprocal attraction and influence, mutual selection, active convergence and mutual reinforcement (Löwy, 1989). For the SDG 4.7 this argument is central in defending the constellation of both concepts as being intimately related, and the convenience of facilitating the implementation of one also fully implements the other.

Second working hypothesis

This hypothesis, following a political sociology of education, emphasises that without a democratic state we cannot have democratic education, bearing in mind the importance of democracy in the construction of citizenship. [3]

The *Global Education First Initiative* (GEFI) emerged in 2012 as the first ever Educational Initiative of a UN Secretary to link access (education for all), quality of education and global citizenship as the lynchpins that provide legitimacy to the enterprise as a whole. It emerged as a UN narrative confronting the perceived acceleration in the fragmentation of multilateralism, in the changes that were produced by the different weaves of globalisation, and the increasing risk (the risk society theory) that was amplified by the new war technologies with possible catastrophic implications for the planet. The SDG may have been attempting – but perhaps so far has failed – to highlight the crisis in the post-war societies confronting the tensions between Growth and Sustainability. In particular, fossil-fuel oriented economic growth and the limits of sustainability for the planet, as well as the destabilisation of ecosystems.

It is imperative to relate democratic education to multiculturalism and citizenship in the digital culture era given hybrid cultures coexisting in the contexts of multiple globalisations. In terms of the politics of culture and education, there is an urgent need to unpack and criticise the principles of neoliberalism's *new common sense* in education (Morrow &

3 I highlighted the various models of democracy, including socialist democracy, in my book (Torres, 1990).

Torres, 2013; Torres, 2011).[4] At his untimely death, Freire had been trying to articulate his criticism of liberal multiculturalism with his caustic critique of neoliberalism – what he called the "new evil of the world today" (Torres, 2014)[5] – and a promise of ecopedagogy (Misiaszek & Torres, 2019).

Third working hypothesis

Education is not only about human capital formation.

An education for emancipation may be based on the post-colonial ethics of emancipation. Without this kind of education, it would be very difficult to construct an education in global citizenship linked to a model of sustainability. Hence the work of Paulo Freire and many other critical scholars in education is emblematic here. Freire's postcolonial positions were based on his consideration of education as an ethics of love. Enrique Dussel discussed the concept of emancipation as part of a non-Eurocentric liberation ethics, viewing the 'other' as oppressed, where the "majority of the humanity finds itself sunk into 'poverty', unhappiness, suffering, domination, and/or exclusion" (Meca & Prévos, 1997). It is in this context that Dussel turns to Freire's concept of conscientisation as a description of the processes within which liberation ethics unfold not only in the consciousness of the oppressed, but also in those who have shared experiences with the dominated and/or excluded. Freedom, democracy and critical participation are key ideas that initially constituted the core of Freire's pedagogy of love and education as a post-colonial ethic.

Fourth working hypothesis

We cannot have democratic education until we recognise the need to account for the DNA of globalisation; and that the crucial issue of these unsettling times is diversity.

Within the context of globalisation, we shall learn how to cross the lines of diversity. In order to account for diversity, many theories, methodologies and practices have been developed, one of the most prominent of which, albeit not the only one, is multiculturalism; a process that is now confronting a serial crisis of identity, praxis and relevance. We shall then construct a model of global citizenship multicultural education based on a concept of social justice education if we want to protect the planet, our Mother Earth, or *la Pachamama* and protect people's lives as well (Tarozzi & Torres, 2016).[6]

4 The work of Morrow and Torres was translated into Chinese, second edition, into Japanese in 2015 and into Spanish in 2016.

5 This book received the American Association for Adult and Continuing Education (AAACE) Cyril O. Houle Award for Outstanding Literature in Adult Education in 2015. Translation into Chinese by Pro-Ed Publishing Company, Taipei, Taiwan, 2017, p. xxv.

6 Translated into Chinese by the Centre for Global Citizenship Education, National Chiao Tung University (2019) Hsinchu, Taiwan (with a new preface for this edition).

Fifth working hypothesis

Reclaiming citizenship is a requirement for reclaiming sustainability.

This hypothesis focuses on the current situation in the USA. Allow me to provide a bit of context: there was a debate in the United States about whether or not the 2020 Census should include a question on the citizenship of the respondents. The Trump administration was the driving force behind this question, which was rejected by civic organisations, the democratic party, demographers, etc. It was claimed, with good reason, that such a question would cause an undercount of the population. The most commonly discussed consequences of an undercount would have been its effect on congressional districts and federal funding, which would have affected federal programmes, such as Medicaid, Section 8 Housing, and school lunch programmes.

Adam Serwer, a staff writer at *The Atlantic,* in a book entitled *The Cruelty Is the Point. The Past, Present, and Future of Trump's America* writes that President Trump and his supporters find community by rejoicing in the suffering of those they hate and fear. Concluding the book with the assertion that "once malice is embraced as a virtue, it is impossible to contain" (Serwer, 2021).

California, where I live, is a very liberal state in the Union, and there are many sanctuary cities that protect immigrants. There are many 'dreamers' and undocumented students in our schools and universities who are at risk when one considers the racist position of the Trump administration with regard to immigration. There is no question that many documented immigrants – were there to have been a citizenship question in the census – would have been concerned. Even more so given that this question had not been piloted properly because it was introduced late in the planning of the census. In short, this question would have resulted in underestimating a population of more than 24 million people.

As an example of the problem, at UCLA there is a very progressive, social justice-oriented teacher education programme that works to bring more people of colour into higher education, creating better educational and economic opportunities. Yet, many on that programme refuse to use the term *citizenship* because it is seen as exclusionary and creates a risk that people who are not legally in the country may not find either our UCLA programmes or the teachers in the classrooms welcoming to people of colour. They use alternative terms like *civic engagement,* which is one of the outcomes of proper citizenship practices.

My perspective is different: we need to reclaim the concept of citizenship but unpack these ideas in other ways than simply through status and role. I have written extensively that citizenship is about civic minimums and civic virtues, and requires an understanding of rights and responsibilities. One of the main responsibilities, and it is implemented in our programmes, is to look at citizenship as civic engagement. I could not agree more with this need for advocacy of civic engagement, but my working hypothesis postulates that we need to reclaim the notion of citizenship within the context of global and local politics and not leave it to be appropriated by conservative groups, the Alt-right, populist authoritarian politics or the politics of racial division and hatred in this country. Without reclaiming the concept of citizenship at a local level, we cannot progress towards global citizenship at a global level, and we will miss an incredible opportunity to link citizenship with multiculturalism, social justice education and sustainable development.

Sixth working hypothesis

The crises of late modern societies can be understood as crises of desynchronisation.

Following the work of the Jena Group on Social Theory,[7] we shall consider the tensions and contradictions in the construction of global citizenship and sustainability. Late modernity is based on the principle of acceleration. According to acceleration theory, the essential characteristic of modern societies is that they are only capable of stabilising themselves dynamically; that is, they are structurally dependent on growth, acceleration and increases in innovation in order to reproduce the *status quo* as far as their socioeconomic structures and basic institutions are concerned (Rosa, 2010; 2019). Arising from this reality is a progressive 'logic of escalation', a logic that causes the promise of cultural progress so closely associated with this complex of increase and escalation to become progressively irrelevant when considering the structural mechanisms of compulsion. Given that time as such cannot be stretched or extended, only compressed, the mechanisms of increase and escalation function as compulsions to accelerate to an ever-increasing degree.

This becomes problematic only (and particularly) where the processes of desynchronisation between faster and slower elements of society are revealed. Desynchronisation rests on the observation that not all social strata or spheres are equally fit for acceleration; that is, are capable of it or willing to be accelerated, so that frictions and tensions emerge at certain intersections of accelerating and acceleration-resistant or resistive areas. From this perspective, the crises of late modern societies can be understood as crises of desynchronisation:

(1) The ecological crisis appears as desynchronisation between natural cycles and the socially produced pace of commodity consumption: natural resources reproduce more slowly than they are consumed by industry, while the emissions of toxic substances occur too quickly for natural decomposition to compensate.

(2) The crisis of democracy, which can be seen particularly (but not only) in the early industrialised countries and manifests itself in lower overall voter turnout, the growth in protest voting and new extra-parliamentary oppositional movements, can be read as the result of de-synchronisation between the time it takes for democratic will formation and decision-making on one side, and for market-generated pressure to cause political decisions quickly on the other.

(3) One explanatory factor for the global financial and economic crisis that has been unfolding since 2008 can be found in the fact that the velocities of the financial and commodity markets – or more precisely, of financial market transactions that can be conducted in a digital form in fractions of a second – and the production and consumption of goods in the 'real economy' have diverged dramatically.

(4) Finally, the psychological crisis of developed societies that finds expression in the widespread diagnoses of burnout and depression, as well as the visible increase in symptoms

7 The *Structural Change of Property* series by S. van Dyk, T. Reitz and H. Rosa emerged from the Collaborative Research Centre 294, "Structural Change of Property", funded by the German Research Foundation. It brings together outstanding academic work on the history, present and future of property from an interdisciplinary perspective. It assumes that the institution of private property is coming under increasing pressure in the face of intensified distribution conflicts, new digital productive forces and the crises of social and ecological reproduction and is confronted with alternatives. See, for example, Dörre (2024).

of anxiety and stress, can be interpreted as a consequence of the desynchronisation of the mind's 'own time' *(Eigenzeit)* and the speed of social processes. In all these cases we thus seem to be dealing with a temporally specific overburdening of the slower systems.

Growth, competition and acceleration, moreover, are conceptually and empirically connected to such a degree that the latter cannot be decoupled from either of the former. Additionally, slowness does not seem to be an end as such to us either: neither are acceleration intrinsically 'bad' nor deceleration in itself 'good'; from no conceivable perspective, can deceleration be established as a normative criterion. Therefore, deceleration as a goal is neither possible nor desirable.

Seventh working hypothesis

If Social Justice Education is the solution, what is the problem? The problem is the construction of subjectivities under capitalism, or two moral imaginaries (or models of subjectivity, or regimes of justification), one based on the Staatsvolk (national citizens) another on the Marktsvolk (market citizens).

The work of Wolfwang Streeck is central in providing a rational argument for the construction of subjectivities under capitalism as a central problem for education, including national and global citizenship and sustainability (Streeck, 2020; 2024). There is a widespread sense today that capitalism is in critical condition, more so than at any time since the end of the Second World War. Looking back, the crash of 2008 was only the latest in a long sequence of political and economic disorders that began with the end of post-war prosperity in the mid-1970s. Successive crises have proved to be increasingly severe, spreading more widely and rapidly through an ever more interconnected global economy. Global inflation in the 1970s was followed by rising public debt in the 1980s, and fiscal consolidation in the 1990s was accompanied by a steep increase in private-sector indebtedness.

Crisis symptoms are many, but prominent among them are three long-term trends. The first is a persistent decline in the rate of economic growth, recently aggravated by the events of 2008. The second, which is associated with the first, is an equally persistent rise in overall indebtedness in leading capitalist states, where governments, private households and non-financial as well as financial firms have, over forty years, continued to pile up financial obligations. Third, economic inequality, in terms of both income and wealth, has been on the ascent for several decades now, alongside rising debt and declining growth (Streeck, 2014). Streeck tells us that the aftershocks in Europe are tearing the continent apart (Mason, 2015). This affects the way subjectivity is constructed in capitalism. Alienation is the result of a damaged subjectivity.

While the question is: how has human subjectivity changed with capitalism? It is less about how our *understanding* of 'subjectivity' has changed under capitalism (e.g. that the subject object paradigm became one with Hegel and Fichte) but rather how capitalism has reshaped subjectivity, and how it has created the possessive individualism that dominates markets and politics.

Eighth hypothesis

Global Citizenship Education is an intervention in search of a theory. But given the push from diverse forces at the local level, a comprehensive holistic theory of GCE may not be possible or even desirable. The alternative is to create a metatheory of citizenship education and sustainability.

We have been working on a metatheory that I have called the *global commons,* which attempts to address the interrelation between systems dynamic self-stabilisation and the legitimation principles of modern societies. Global commons are defined by three basic propositions. The first is that our planet is our only home, and we have to protect it through global citizenship and sustainable development education, moving from diagnosis and denunciation into action and policy implementation.

The second is that global commons are predicated on the idea that global peace is an intangible cultural good of humanity with immaterial value. Global peace is a treasure of humanity.

The third is that global commons are predicated on the need to find ways that people who are all equal can manage to live together democratically in an increasingly diverse world, seeking to fulfil their individual and cultural interests, and achieving their inalienable rights to life, liberty and the pursuit of happiness.

To summarise all these working hypotheses, let us recall the words of Karl Marx in the *Grundrisse. Foundations of a Critique of Political Economy:*

> "The concrete is concrete because it is the concentration of many determinations, hence unity of the diverse. It appears in the process of thinking, therefore, as a process of concentration, as a result, not as a point of departure, even though it is the point of departure in reality and hence also the point of departure for observation [*Anschauung*] and conception (Marx, 1973)."

Following a reading of Marx, Hartmut Rosa's recent work on a theory of resonance indicates the way in which we should understand the complexities of our late modernity. Let us assume that resonance and alienation are basic categories for a theory on the relationship with the world, which is exactly what these hypotheses on global citizenship education and sustainability would like to achieve: preservation of the natural world, and change from the social relationships of domination.

For my part, considering all these complexities, I can only quote the lyrics of Milton Nascimento, "Now my life just fits in the palm of my passion" (Nascimento et al., 1978).

2025 Postscript: The Second Trump Administration

This postscript seeks to show the validity of what was argued in the first part of this article written back in 2019, and how it reflects the ways that its original content can be reprised or modified for this second administration. Which measures from the second Trump administration deal with diversity and migration? And how do the intertwining of politics and influence trading affect civic engagement and expressions in the USA?

Six years have elapsed since I wrote – but did not publish – the first part of this article commemorating my election as an Honorary Fellow of the CIES at one of its meetings in San Francisco. Many of the hypotheses I advanced in 2019 included observations on the first Trump administration and its relationship with globalisation.

Globalisation is the product of the emergence of a global economy, an expansion of transnational linkages between economic units creating new forms of collective decision making, development of intergovernmental and quasi-supranational institutions, an intensification of transnational communications and the creation of new regional and military orders. There is no question that the discussion on globalisation has occupied social sciences and particularly political economy over the last four decades, intimately connected with the growing presence of neoliberalism in the world (Torres, 2009).[8]

Arguably, the second Trump administration has implemented a strategy of disorganisation of the global system articulated around the multiple layers of globalisation via an adjudication of a neomercantilist perspective resurrecting theories that dominated Western European economic thought from the 16th to the 18th centuries.

This model was partially implemented in Trump's first administration, but with a focus mostly on China. It could never evolve in full swing because of what the press termed 'adult people' in the administration who prevented Trump from fully embracing it – members of his cabinet that included people from the armed forces and the Republican party and, in particular, from the world of business.

This time, what is at stake is the disorganisation of the global economy articulated after the Second World War through the leadership of the USA as the dominant power. This critique of neoliberal globalisation as being responsible for the economic decline of the USA is, for neoconservatives, also a way to explain the economic, technological and militarily gains China has made over the past two decades.

Another trend in this second administration, which expands on the experience of the first administration, is the goal of capturing and deporting *without due process* one million undocumented immigrants in the first year. This war against immigrants was implemented to a lesser degree during the first administration; and there are serious doubts that it can be achieved. In part because of the magnitude of the goal, and partly because these actions have already been confronted by the judicial system, escalating the confrontation between the judicial and executive branches. The judiciary is perhaps the last institutional guardrail left to protect democracy in the United States. Congress doesn't seem able or willing to intervene just now.[9]

The implementation of the highest tariffs since 1909 were sharply criticised because of the unpredictability of Trump and his 'Liberation Day' levy of tariffs on 60 countries around the world (Picchi, 2025) that resulted in the dollar losing 10% of its value since Inauguration Day. Yet, more importantly, U.S. bonds, long term global securities and the strongest refuge for capital in times of crises, have also behaved erratically. After the announcement of the

8 I discuss the educational impact of the multiple layers of globalisation in my book.

9 Thomas Friedman, a strong defender of globalisation, in an opinion article in *The New York Times* argued that Trump 'Just Bet the Farm', suggesting that the failure of his strategy will be costly for the USA. A case in point is what the press and academics consider contempt by the administration to a Judge (Cohen et al., 2025).

new tariffs, at one point on Friday 11 April 2025, the rate on the 30-year bond approached 5%, up from 4.4% one week earlier.

Higher yields would raise borrowing costs across the economy. That prompted the Trump administration to pause the tariffs on all countries apart from China for 90 days. The problem is, however, that nobody knows what is going to happen after this pause ends. For the moment, however, one of the most important U.S. industrial companies, Boeing, one of the two dominant global companies building airplanes, will find itself at the mercy of the Chinese response because the Government of China has instructed its airlines not to accept jets from Boeing.

What is new in this second administration – besides Trump already being a lame duck President who cannot be re-elected – is the attack on higher education via criticism of the models of equity, equality and inclusion. The government accuses universities of tolerating antisemitism and being too liberal. Trump has sent many private universities letters detailing changes that are expected against a threat of penalties – from making their endowments taxable to losing funding from government resources.

Curiously enough, one thing that the USA exports more than any other country is produced by the U.S. higher education 'industry'. Catherine Rampell shows that education-related travel (together with all cost that foreign students incur in the United States, including tuition and living expenses) is $56 billion, more than any other key export of the USA, including, for instance natural gas, soybeans and corn (Rampell, 2025).

Professor Márton Demeter puts the importance of international academic exchanges in the right light:

> "As Chase-Dunn argues (1999), the interconnected societal fields like economy, culture, politics, communication should be analyzed from a global perspective, and the global academy is not an exception. Following Wallerstein (2004) we assume that knowledge production is not separate from overall world-system dynamics but rather it is an essential part of the system's operation. Galtung (1980) even assumes that the means of knowledge production like popular culture and education serve to maintain the hegemony of the center by spreading its values and ideologies. Moreover, academic publishing itself gains from the political and economic hegemony of the Anglo-American center" (Demeter, 2019, p. 115).

Surely this argument about the decadence of U.S. cultural hegemony, which should be highlighted in the self-limitation of achieving its world cultural hegemony, will be remembered as one of the outcomes of Trump's anti-woke administration.[10]

Another important factor in why the Trump strategy of bringing manufacturing back to the USA through reindustrialisation will not succeed is because most of the affected

10 'Woke' is originally an African American Vernacular English (AAVE) term that means being alert or aware, especially of social and political injustices like racism and inequality. It suggests a conscious understanding of one's role and its influence on others and the surrounding social climate. While originally used to encourage awareness and action, the term has become controversial and is now used by some as a derogatory label for those who are considered overly sensitive or politically liberal, especially in matters of social justice.

industries, such as the so-called *magnificent seven* and others, will be unable to move all their production to the United States before the Trump administration ends in 2028.[11]

Jointly, with tariffs as a new geopolitical weapon, there is the promise Trump made to end the war between Russia and Ukraine in no time at all. In the midst of a new wave of Russian bombardment in Ukraine, the agreement for the 'just and lasting peace' demanded by the countries of the European Union is not happening. Russia is reluctant about the truce that the United States is seeking, and the Nordic countries have reacted to the threat of Russian expansionism with a rearmament plan, as has Brussels (Boccio, 2025). On 4 March 2025, European Commission President Ursula Von der Leyen proposed an investment of €800 billion for the creation of a programme called 'ReArm Europe', a strategic defence initiative aimed at bolstering the European Union's military capabilities (European Commission, 2025). In response to geopolitical threats from the war in Ukraine and uncertainty about U.S. military support with the return of Donald Trump to the White House.

These events are partially a result of the animosity Trump felt towards NATO during his first presidency. In this new administration, despite having reassured us that he would produce global peace, and end the war in Europe and the Israeli violence in Gaza, nothing of the sort has materialised. It is likely that his animosity towards NATO may result in the USA withdrawing from membership of NATO. Yet many people are wondering why the new budget that Republicans have set up for their new administration contains one billion dollars more for the armed forces than the amounts traditionally allocated to defence. There is also a question of why the sources of 'soft power' for the USA, which have been very handy for U.S. public diplomacy in the past, have been decimated under this administration (Packer, 2025).[12]

In conclusion, the new Trump administration not only exemplifies the decline in U.S. growth, but will probably accelerate this process overall. Meanwhile, the second trend of persistent rise in overall indebtedness continues. With an external debt of 36.21 trillion, and a Gross Domestic Product of 27.72 trillion, arithmetic tells us that unless the USA manages to reduce its debt to a reasonable limit, it will become the most serious economic liability even for the most economically powerful country.

Yet, the current Trump administration is seeking again to extent Trump Tax Cuts. By 2054 tax cut extensions will add 37 trillion to U.S. Debt (Committee for a Responsible Federal Budget, 2025). Economic inequality, both at the level of income and wealth in the USA increases:

11 The 'Magnificent Seven' stocks are a group of high-performing and influential companies in the U.S. stock market: Alphabet, Amazon, Apple, Meta Platforms, Microsoft, NVIDIA and Tesla.

12 This article is a strong critique of Trump's disregard for the 'soft power' of the United States, represented among other institutions when on 20 January, within hours of his inauguration, President Trump signed an executive order that froze foreign aid, and USAID was instructed to stop nearly all work. Established through the Foreign Assistance Act of 1961, the U.S. Agency for International Development (USAID) was the principal U.S. agency responsible for extending development assistance to countries around the world.

> "Household incomes have grown only modestly in this century, and household wealth has not returned to its pre-recession level. Economic inequality, whether measured through the gaps in income or wealth between richer and poorer households, continues to widen" (Horowitz et al., 2020).

While it is too early in this new administration to estimate its possible policy outcomes, it is evident that the crisis of desynchronisation continues unabated, and that the ecological crisis will increase with an administration that wears denialism as a badge of honour and makes the death of expertise a consummated practice in the White House. At the time of writing, we are confronted with the possibility of a constitutional crisis, reverberating strongly among the crises of U.S. democracy; furthermore, the varying velocity of market transactions cannot be predicted, nor there is a clear horizon for political predictability or the impact of tariffs, with the exception of the assumption that if the practice continues as it is, there will be stagflation in the USA and the most serious crises in the world economy (Schonberger, 2025).[13]

Given these conditions, it is expected that the psychological crises that university professors will witness in their classes, among themselves and the students, will continue to deepen, and more events connected with burnout and depression, as well as feelings of despair, anxiety, hopelessness and intense emotional distress in most segments of the population will be the common sense expression of the alienation of our daily lives.

The utopian model we advanced in 2019 is that the potency of global citizenship education and sustainability could accentuate the importance of the Sustainable Development Goals. They could become tools for achieving a better, more predictable and sustainable world.

With the orientation of the second Trump administration, it will be very difficult to reconcile those goals until this government is either defeated or naturally expires. The best option is the mid-term election for a show of discomfort and anger about the policies implemented by the MAGA social movement that controls the White House.

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ARTICLE

The Tricky Bits of Studying Agreement and Disagreement in Online Deliberation

Current Research Directions and Methods in the Field of Political Communication

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This article provides an overview of current studies dedicated to agreement and disagreement in online deliberation, and explains the relevance and challenges of exploring political disagreement in the digital sphere. Two dominant approaches to understanding disagreement that have existed since the early 2000s are defined that have provoked an acute scientific debate on the ambiguous impacts of disagreement on deliberative process and the participatory activity of citizens. A literature review outlines three main groups of works on the consequences of disagreement. This article contributes to the field of political communication in several ways. First, the current gaps in studying agreement and disagreement and their impact on political communication are indicated. Second, future research venues are proposed according to detected lacunas. Third, an explanation is provided of why the issue of disagreement in the field of political communication is so complex to study. Fourth, the methodologies for analysing agreement and disagreement in online deliberation, including computational methods of text

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analysis, are highlighted. Based on a methodological review, the parameters for agreement and disagreement analysis in political discussions are summarised and tested through empirical research.

Keywords: political communication, public deliberation, political participation, agreement, disagreement, social media

Introduction

Online deliberation of socio-political issues is one of the most scientifically discussed forms of political communication between citizens and authorities in the digital sphere today (Baek et al., 2012; Esau et al., 2017; Esau et al., 2020; Halpern & Gibbs, 2013; Wojcieszak et al., 2009; Filatova & Volkovskii, 2021). Ideally, online deliberation represents a process of public mutual, purposeful, reasoned, rational, respectful, and equal discussion in a dialogical form of communication using electronic tools for interaction, and with the aim of solving common problems and achieving consensus or cooperation (Volkovskii & Filatova, 2022b). Deliberative practices increase the social capital of society as more people progressively perceive deliberation as a civic activity (Fishkin, 1995; Putnam, 2000), and the legitimacy of the constitutional order grows as citizens have more opportunity to express their views and comprehend this order through an exchange of opinions (Chambers, 1996; Gutmann & Thompson, 1996); moreover, political actions and decisions taken both individually and collectively become more justified, obtaining greater support from government officials (Gastil, 2000, pp. 23–25). As a result, citizens become more aware of their own and others' socio-political positions, needs and experiences, resolve deep conflicts better and participate more actively in the political life of their society, perceiving the political system as legitimate, and leading a healthier civic life (Delli Carpini et al., 2004).

Social media platforms as spaces where citizens and authorities actively deliberate on various socio-political topics have recently received enormous scholarly attention (Alarabiat et al., 2016; Filatova & Chugunov, 2022; Gil de Zúñiga, 2015). Research has shown that there are increases in the quality of communication, the level of trust between state and citizens, the transparency of government structures, and the degree of citizen involvement in politics thanks to social networks (Bertot et al., 2010; Haro-de-Rosario et al., 2018; Picazo-Vela et al., 2012). As for online deliberation, research has confirmed that social media acts as a catalyst for the digital deliberative process (Halpern & Gibbs, 2013) and encourages online users to conduct political conversations in a more deliberative manner (Savin, 2019), but simultaneously provides enormous access to heterogeneous information, which leads to political disagreements between people and state officials (Maia et al., 2021). Participants can often disagree with each other's opinions and arguments, as well as with government bodies, and openly confront them without modifying their positions, which allows disagreement to be viewed as both a condition of and a challenge to political communication (Esterling et al., 2015).

Do people tend to participate in online discussions in order to agree or to argue? (Yardi & Boyd, 2010). Recently, it has become clear that it is neither of these aims (Bodrunova, 2023).

It has been noted that people lack the deliberative qualities that were widely outlined in the theory of democratic deliberation (Bohman & Rehg, 1997; Cohen, 1997; Dryzek, 2000; Habermas, 1996) and that they do not initially aim at building consensus (Volkovskii & Filatova, 2022a). As a result, temporary or permanent patterns of disagreement are observed in mediated public discourse, which prevents the achievement of mutual comprehension both between citizens and with state officials (Rossini & Maia, 2021). Online users with opposing positions still make up the bulk of the discursive public, which causes fragmentation of the discussion through appearance of echo chambers, harsh clashes of opinions, and final disagreement. Although some research indicates that political discussions on the official social media pages of authorities are more reasoned and polite in comparison to discussions on informal Internet forums and conversations on the social media pages of ideologically polarised media (Chugunov, et al., 2016; Filatova & Volkovskii, 2020; Volkovskii & Filatova, 2022b; Volkovskii & Filatova, 2023; Volkovskii et al., 2024), disagreement still exists among citizens and with government and its public policy. As for the consequences of disagreement in online deliberation, there is still an intensive academic debate on whether disagreement is constructive or destructive for the dynamics and quality of discussion, and decision development (e.g. Huckfeldt et al., 2004a; Mutz, 2002a, 2002b; 2006).

The problem of agreement and disagreement between citizens and state officials on social media was evident during the major health crisis of the Covid–19 pandemic, which undermined political trust, here understood as a form of "generalised" or "diffuse" support aimed at a set of political objectives (Easton, 1975). Political trust is responsible for political participation, various forms of citizen engagement, and a functioning democracy (Davies et al., 2021), especially in times of crisis. The Covid–19 pandemic increased the spread of distrust in elites, government agencies and their arguments, as well as provoking a surge in conspiracy theories and mythologised thinking around the world (Lilleker et al., 2021). As a result, huge arrays of disparate pieces of information were generated without any proper contextualisation or fact-checking, which did lead to acute conflicts and disagreements between citizens, media, scientific experts and state officials in online discussions on various topics, including public policy measures. In non-democratic countries, the situation became even worse than it had been due to the previously formed "triangle of distrust" between political elites, media, and public (Bodrunova, 2021). This fact makes the study of the problem of agreement and disagreement between citizens and with government officials in online deliberation on significant political topics in crisis conditions extremely pertinent; in addition to the way disagreement, as expressed by citizens or government in relation to each other, affects the quality and dynamics of deliberation.

This article aims (1) to analyse current lacunas and tendencies in the study of online disagreement and its impact on digital deliberation; (2) to explain why the issue of disagreement is not easy to study in the field of political communication; (3) to describe methodological approaches to analysing agreement and disagreement and proposing a methodology of content analysis that can be employed in the field of political communication studies; (4) to indicate potential future research directions. To achieve these objectives a descriptive method of literature review has been used. Consequently, the current overview contributes to a better understanding of the agreement and disagreement problem, as well as the state of contemporary deliberative studies exploring this issue. Furthermore, an analysis of empirical findings and methods helps in shedding light on how they can be implemented in practice in terms of interaction between government officials and citizens. This aspect may be studied in such domains as political communication, public policy, e-participation, e-governance, e-democracy, informational autocracy. The article consists of the following sections: an introduction, the theoretical background, a review of methodologies, a conclusion and discussion. The research questions reflect the objectives of the current paper.

RQ1: What are the current gaps in studying agreement and disagreement and its impact on political communication?
RQ2: Why is the issue of disagreement not easy to study in the field of political communication?
RQ3: What methodologies for analysing agreement and disagreement in online deliberation currently exist?
RQ4: What future research venues can be proposed for this field?

Theoretical background

The necessity of reaching consensus through deliberation, and of studying agreement and disagreement in political communication in democratic and non-democratic countries

The field of public deliberation has become a central research agenda. It is a multidimensional theory studied in political philosophy (e.g. Cohen, 1997; Gutmann & Thompson, 1996), political communication (e.g. Carcasson et al., 2010; Gastil, 1993), and public opinion research (e.g. Gastil, 2008; Page, 1996). On the one hand, there are many definitions for deliberation (e.g. Volkovskii et al., 2023), since it is a complementary phenomenon; on the other hand, there is no unified term that could be verified empirically in a standardised way by all scientists due to the variant methods of conceptualisation and operationalisation of the term. Nevertheless, many researchers agree that deliberative practices eliminate inequality by expanding opportunities for engagement in political systems and promoting mutual respect, strengthening the epistemological quality of public opinion and ultimately ensuring the legitimacy of collective decisions (Mansbridge et al., 2012; Warren, 2017). An extensive literature review on individual and group experiences of deliberation shows that changes at the individual level include increased knowledge of issues and a desire to participate in political life and in the activities of their community (Kuyper, 2018). At the group level, it was found that participants' study of the views of other people with whom they disagree has a depolarising effect on association (Colombo, 2018; Grönlund et al., 2010). Some studies have shown that elements of the deliberative process, such as recognition of values and prejudices, justification of views, consideration of alternative opinions and preferences, can reduce intergroup hostility in post-conflict societies (Boyd-MacMillan et al., 2016) and in divisive public debates (Colombo, 2018). Thus, deliberation prevents polarisation (Kuyper, 2018). Furthermore, deliberation serves as a means of jointly resolving social problems and conflicts through mutual recognition of the legitimacy of disputed values and identities (Dryzek & Niemeyer, 2006). If there is no such recognition, politics, as a rule, becomes a struggle with no acceptance of losses and compromises (the aim of such a struggle is the destruction of the values of the opponent) (Dryzek, 2009). There may be different ways to solve problems (for example, through top-down, technocratic solutions), but the literature on public policy defines deliberation as a mutually acceptable solution with a good level of efficiency, especially when decisions taken "from top to bottom" do not work (Innes & Booher, 2003).

Despite ever more theoretical and empirical studies devoted to deliberative democracy and diverse aspects of deliberation, including innovative directions in deliberative research thought (Friess & Eilders, 2015; Strandberg & Grönlund, 2018), there is a crisis in deliberative democracy (Dryzek et al., 2019). Nowadays, the real world of political communication is far from a deliberative ideal due to some weighty factors: (1) diminishing civility in interactions among elected and legitimate representatives, uncivil behaviour among elites, and pathological mass communication all negatively influence the level of civic participation (Buchanan et al., 2022) and decrease the trust citizens have in democratic institutions (Dryzek et al., 2019); (2) extreme polarisation and preference of manipulative methods over dialogical ones, which makes citizens less motivated to listen to messages from the state or to follow them, and politically discourages participation (Lee, 2012; Lu et al., 2016); (3) the fragility and inefficiency of simplistic arguments and solutions for ambiguous and complex issues in combination with post-truth politics lead to "susceptibility by citizens to ill-reasoned, populist, and increasingly authoritarian appeals from political elites" (Dryzek et al., 2019; Buchanan et al., 2022). Nevertheless, there is accruing empirical evidence that deliberative practices, programs, and structures do have potential and offer some ways of mitigating the recessionary political situation. Moreover, an acute demand in deliberative practices by political actors in the international arena to solve various conflicts and find political consensus is extremely evident in the conditions of a painfully emerging new world order, the normative and institutional consolidation of which is still off in the distant future and depends on the influence of many barely predicted factors (Melville et al., 2023).

A recent literature review on online deliberation has clearly outlined a few significant gaps in deliberative studies (Volkovskii et al., 2023). The first gap refers to the predominance of institutional research venues in deliberation over productive and communicative ones. There have been almost no studies that investigate all three aspects of deliberation and their causal links (design–process–results). Empirical studies continue to concentrate more on deliberative communication as a dependent variable and the effects of design (input) on its processes (Alnemr, 2020; Gonçalves & Baranauskas, 2023) rather than on the effects of communication processes on deliberative outcomes (Price, 2006). However, increasing numbers of works on communicative throughput (Del Valle et al., 2020; Volkovskii et al., 2023), including research on political disagreement and achieving consensus, and on integrating automated and machine methods in particular (Fournier-Tombs & Di Marzo, 2020), have begun to emerge recently. The burgeoning empirical research in this field may be explained by the fact that governments can no longer overcome social problems on their own, they need to strive to cooperate with citizens and civil society to jointly share responsibility, offering more effective management methods and balanced collective decision-making (Shin & Rask, 2021; Torfing et al., 2019).

The second gap is a lack of understanding of the role and quality of deliberation in the context of exogenous shocks. Online deliberation and its quality have traditionally been studied during periods of social certainty, however, when this issue is considered in crisis conditions, there is a noticeable research lacuna. Crisis can be interpreted in different ways depending on the field of research, but a generally accepted definition of crisis is "a threat that is somehow perceived as existential" (Boin et al., 2018, p. 24). While crises (war, terrorism, pandemic, natural or financial disaster) vary in the type, speed and the scale of government response to them, the feelings of insecurity, panic and fear they cause in society that lead to political disagreement and a loss of political trust and genuine dialogue between citizens and government are scientifically recognised (Cristea et al., 2022; Liu et al., 2016). The Covid–19 pandemic was an existential threat because it was beyond (or very weakly under) the control of governments, it caused deep fear among people regarding the lethality of the disease, and undermined established rules and ideas about safety, health, and well-being in society (Kachanoff et al., 2021). This crisis led to great uncertainty about infection, and the effectiveness and duration of government protective measures (Taylor, 2019). Taking into account this point, it is not surprising that citizens disagreed so frequently with public policy measures.

Some empirical works have confirmed how closely political trust is linked to people's willingness to follow the laws and regulations imposed by the government in response to crises (e.g. Marien & Hooghe, 2021); and other studies have examined changes in political trust in the early stages of the Covid–19 pandemic. Thus, it was found that the first wave of the crisis led to a general increase in political trust and government approval in all democratic countries (Baekgaard et al., 2020; Davies, et al., 2021; Sibley et al., 2020). It is worth noting that the study of the impact of the Covid–19 pandemic on political trust is still being actively pursued in the scientific field (Devine et al., 2021). There are two main areas of research on political trust in the context of Covid–19: the first examines how trust affects citizens' acceptance of measures to combat infection (e.g. Bargain & Aminjonov, 2020; Jørgensen et al., 2021; Raude et al., 2020); the second examines the impact of implementing measures to combat the pandemic on political trust (Baekgaard et al., 2020; Bol et al., 2020; Schraff, 2020; Sibley et al., 2020). As the problem of political trust correlates with the problem of expressing and achieving consensus between citizens and authorities, the two flows of research mentioned above actualise the study of the political agreement and disagreement of citizens with power structures on public policy measures. In addition, most studies have focused on Western democracies and the level of trust in their governments in the early stages of the crisis (e.g. Bol et al., 2020; Schraff, 2020).

Besides the fear and panic it seeded in the world, the pandemic dramatically altered the role and quality of political communication among citizens and government officials. The transformations and challenges were as follows.

A highly personalised approach to political communication

Political leaders such as prime ministers and presidents, and even some ministers and medical experts, have become major communication figures and key actors in policy responses. While on the one hand, the main communicators were able to deliver a unifying message and make important decisions, this could not, on the other hand, guarantee public trust and unity because there were some figures who expressed fundamental differences of opinion and conflicts about the response that should have been made in countering the crisis. Such diverse positions expressed by different opinion leaders was able to cause a wave of disagreements and protests in the online sphere.

Growing mediatisation and importance of the media in overcoming the crisis

This was a consequence of the new media system and one of the triggers of a personalised style of political communication (Altheide, 2020). Governments received support from various media outlets that had previously criticised them. Thus, overt opposition rhetoric was reduced. Two factors mattered: (a) an awareness of the importance of national unity, and (b) changes and new measures being announced so rapidly that the ability of the media to analyse them and offer adequate solutions was reduced. This did not, however, mean that governments and the media were fully united in national efforts, even as leaders called for unity. Some differences were apparent in the communication strategies and agendas of political and state institutions on the one hand, and the media and information systems on the other. As a result, battles and conflicts arose between the media and political institutions about the agenda. Even a crisis as serious as the pandemic failed to harmonise the difficult relationship between politics and the media.

The dual role of social networks: strengthening a negative function

Although social media benefited society during the Covid–19 pandemic (it allowed for continued greater economic and social activity; provided new flexible ways of online work and study; encouraged solidarity and communication with community initiatives, etc.), more recent research has focused on the more negative impact of digital media due to the unprecedented level of misinformation that has affected the communication environment (Lilleker et al., 2021). The Covid–19 pandemic was accompanied by an "infodemic" (Bridgman et al., 2021) that mainly spread around the world through social media. Although it is impossible to confirm whether the false information was an acute problem or the main result of the increased use of social media, there were public clashes between political factions, low political trust in government, polarisation in politics and the media, as well as open challenges to experts and science.

In this section, the significance of studying agreement and disagreement between citizens and authorities in political communication has been considered. The problem of achieving consensus via deliberation has been much discussed in the literature and apparent in empirical research; however, it became more evident in the context of the Covid–19 crisis as political communication and deliberative interaction between citizens and state officials was transformed. We have, therefore, highlighted some gaps in the study of deliberation that may indirectly refer to studying agreement and disagreement.

Extant research on agreement and disagreement in political communication

Social media platforms are a deliberative environment in which citizens and government bodies can discuss a variety of socio-political issues (Barbera, 2014; Kim et al., 2013). Social networks are often used by people from different regions of the world with contrasting experiences and opinions (Brundidge, 2010). Consequently, there is a high probability that users may encounter the political disagreements that often arise in online conversations (Yang et al., 2017). Interestingly, one study posits that people do not necessarily need to participate in discussions on social media as they may encounter disagreements in scrolling through their social media feeds (Goyanes et al., 2021). The use of social media platforms provides citizens with an opportunity to learn about views of other people through their access to information variety, which is one of the main values of informal political discussion from the point of view of deliberative democracy (Gutmann & Thompson, 1996; Mutz, 2006). Although many people might refrain from unpleasant face-to-face conversations, some works indicate that digital platforms could potentially provide platforms for engagement in such debates (Stromer-Galley et al., 2015; Wojcieszak & Mutz, 2009). For example, it was found that consensus is less likely to be achieved in an online than an offline environment (Baek et al., 2012). This statement is slightly pessimistic and based on the observation that online deliberation contributed to the polarisation of opinions rather than consensus-building (Sunstein, 2001). Another study, however, showed that "high agreement and low disagreement, and vice versa, affect satisfaction more strongly than balanced combinations of agreement and disagreement" (Stromer-Galley & Muhlberger, 2009). In addition, it was concluded that higher satisfaction with deliberation was associated with increased motivation for future participation and perceived legitimacy of the political choice of participants in a discussion. However, the question of whether the analysis of agreement and disagreement is a necessary parameter for determining deliberative quality remains to be answered.

Types of expression for agreement and disagreement have been thoroughly studied in the literature on political communication and deliberation (Huckfeldt et al., 2004a; Mutz, 2002a, 2006; Wojcieszak & Mutz, 2009; Wojcieszak & Price, 2010), some of which are described in the review on methodological approaches. Other studies have been devoted to identifying the impact of agreement and disagreement on information retrieval, attitude change, and various types of civic practice and political participation (Esterling et al., 2015; Hong & Rojas, 2016; Klofstad et al., 2013). The empirical consequences of political disagreement correlating with changes in political preferences and behaviours have been investigated in the work of Klofstad, Sokhey, and McClurg (2013). Their article revealed the main empirical approaches to studying disagreement and demonstrated that the selection of measures matters. It showed that while those citizens who are exposed to general political disagreement (disagreement that would be evident to all parties involved) tend to have weaker political preferences, those who experience partisanship-based interpersonal political disagreement (it means that people have different views but do not necessarily experience high degrees of conflict) tend to have stronger political preferences. Their study also presented a summarisation of the effects the distinct conceptualisations of disagreement have across the nine political results (vote certainty, strength of party identification, strength of ideology, media use, political interest, external and internal efficacy, political discussion, and 2008 voter turnout in the USA) that could be explored in more detail in future research involving a variety of case studies. Different types of disagreement may reflect a variety of social processes and different effects when it comes to individual political preferences and patterns of political engagement. This statement must be developed in upcoming research using both democratic and non-democratic contexts.

There was also an experimental study that sought to determine whether disagreement at both group and individual levels influenced participants' experiences of deliberation (Grönlund et al., 2023) and contributed to a better understanding of deliberative mini-publics and their role in democratic decision-making. The study confirmed that citizens who take part in organised and formal deliberation seem to be satisfied with the process in general, including participants displaying a high level of internal disagreement or radical positions deviating from collective opinion. Furthermore, research suggested detailed study of factors influencing participant's experiences – such as the theme of deliberation and the activity of moderators – since the empirical reality and findings vary from deliberation to deliberation. Another line of studies investigated individual responses to social-mediated political disagreements (Zhang et al., 2022), which may include constructive argumentation (Maia et al., 2021) or other means such as fighting, trading insults, or avoiding stressful argumentation (Bakshy et al., 2015; Maia & Rezende, 2016; Nikolov et al., 2015; Sunstein, 2017). Zhang, Lin, and Dutton's study (2022) used a two-wave online panel survey conducted in a non-Western Asian context (Hong Kong) and contributed to the investigation of affective polarisation, people's reactions to political disagreement, and its political consequences in social networks. It also provided a clearer understanding of how citizens employ social media platforms to respond to political conflicts in a highly politically polarised society.

The current research agenda focuses on the frequency and intensity of disagreements (Lee et al., 2015; Strickler, 2018; Wojcieszak & Price, 2010), the contrast between perceived and actually expressed disagreements during discussions (Stromer-Galley et al., 2015; Wojcieszak & Price, 2012), types of agreement and disagreement in terms of argumentation, (un)civil, (in)tolerant culture of communication (Rossini & Maia, 2021), correlation of disagreement and argumentation—i.e., which types of disagreement contribute to greater or lesser justification of opinion (Maia et al., 2021), as well as forms/tactics in expressions of disagreement (Fischer et al., 2022), which are summarised in Table 1 and presented in the methodological section of this paper. In the work of Stromer-Galley, Bryant, and Bimber (2015), the differences between expressions of disagreement in online and offline mediums were explored, showing that the communication environment matters through its indication that face-to-face communication space implies more usage of bold disagreements than nonverbal signals to make disagreements softer. However, the study was conducted in experimental settings that limit their generalisability and, thus, more work and the employment of alternative methodologies is required in this field to understand whether the patterns discovered remain the same and can be confirmed. The study by Rossini and

Maia (2021) contributed to filling a gap in the literature on how citizens use various digital platforms to debate politics and get engaged in political dialogue in modern non-English-speaking democracies (the case of Brazil) and pointed out that more research should be conducted on types of disagreement in terms of incivility and intolerance in order to better understand the challengers for engagement in deliberative practices. Another study by Maia et al. (2021) systematically analysed the relationship between citizens' disagreement and reasoning in the various media environments by differentiating between different ways of expressing disagreement and argument. This study operationalised such relevant variables as online discussion context, personal stance on the point of view, and the message target, and argued that a context had an impact on shaping digital communication and expressing bold and soft disagreements as forms of articulating difference, thus contributing to an understanding of fruitful ways of disagreeing with distinct groups of opponents that should be developed in future research venues.

Why studying disagreement and its consequences in online deliberation is not so easy

Disagreement can be both a condition of and a challenge for deliberation because some citizens may welcome diverse discussions and be open to new knowledge, while others may refrain from these debates and become more attached to their own positions. Today, there are still conflicting opinions on what disagreement is and how it can be measured effectively. The roots of this scientific debate go back to the early 2000s when the topic of disagreements in political networks and discussions became the subject of detailed analysis. At that time, two dominant approaches to studying disagreements were proposed. The first was offered by Huckfeldt, Johnson, and Sprague (2004), who determined disagreement as discrepancy in the vote choice of a respondent and his/her interlocutor, even if they had no preference towards the elected candidate. This approach focused on "measuring the lack of agreement, not the presence of disagreement" (Klofstad et al., 2013). The second approach was developed by the political scientist Diana Mutz (2006) who measured the degree of disagreement between survey respondents and other participants in discussion. She attempted to generate an index of disagreement, based on data from the survey questions. Thus, these approaches marked the beginning of "disagreements over disagreements" (Klofstad et al., 2013, p. 1), which later became one of the reasons for more acute scientific debate over the consequences of political disagreement, namely of whether it was a constructive or destructive element in the dynamics and quality of deliberation and political decision-making. There is huge quantity of empirical research analysing the impact of political disagreements on the activity of civil society, and not only in online discussions. These works can be divided into the following three categories.

The first group of studies points out that disagreement has a positive or statistically irrelevant impact on participation (Nir, 2005; Rojas, 2008; Scheufele et al., 2004), indicating that disagreement leads to a growth of awareness on the issue and a deeper "argument repertoire" for both the proponent's and the opponent's political views (Price et al., 2002), including higher tolerance for various positions and comprehension of oppositional views

(Wojcieszak & Mutz, 2009), an increase in user willingness to participate in networked conversations and public forums (Eveland, 2004; Moy & Gastil, 2006), voting (McLeod & Lee, 2012), and campaign activities (McClurg, 2006a, 2006b; Pattie & Johnston, 2009), spurring the pace of discussions, "us–them" demarcation, and contextualisation of the discussed problematic (Bodrunova et al., 2021a).

A large array of other works highlights that disagreement raises political polarisation (Weeks et al., 2017), increases opinion ambivalence (Mutz, 2002a, 2006) and, thus, prevents dialogue across polarised segments of the disputing publics; it makes citizens more politically passive in online deliberation and promotes political apathy (Hyun, 2018; Mutz, 2002b) or completely discourages participation (Lu et al., 2016). Some scholars have also determined further oppositional effects of political dissent, such as ignoring other communicators, stress of participants, retreat from discussion, offending or insulting those who disagree (Bächtiger & Gerber, 2014; Esterling et al., 2015; Gastil, 2018). Exposure to political disagreement on social media may encourage online users to filter their communication networks by using such tools as unfriending, unfollowing, muting, and blocking others (Bode, 2016; Yang et al., 2017; Zhang et al., 2022).

The third line of research shows no evidence of disagreement and decreased participatory level (Huckfeldt et al., 2004b; Klofstad et al., 2013) and assumes that such outcomes are exaggerated as they are conditioned by other factors comprised of various attributes of social media (Huckfeldt et al., 2004a; McClurg, 2006a; Nir, 2005). Diving into this discussion, some scholars point to the methodological disparities in measuring exposure to disagreement in political dialogue (Eveland & Hively, 2009; Klofstad et al., 2013; Pattie & Johnston, 2009) or the different types of political participation considered across studies (Lee, 2012). Moreover, some studies that take into account the specifics of the network have not found any significant link between exposure to political disagreements and avoiding disputes (Campbell, 2013), although there are works that confirm that avoiding disagreements can help citizens remain involved and informed (Dubois & Szwarc, 2018).

Thus, three categories of studies on the consequences of disagreement have been outlined here, and due to the different approaches in understanding disagreement, research design, usage of methods, and interpretation of outcomes, we can trace such a variety of outcomes and effects.

Methodological approaches to studying agreement and disagreement in online deliberation: focus on qualitative methodology

Since the main goal of this section is to provide a methodology that allows us to analyse agreement and disagreement in online deliberation in more detail and in a unified fashion, the particular studies were selected that matched this objective and that employ content or discourse analysis. An important criterion was that these studies did not contradict each other and could mutually complement each other. As a result, the methodological elaborations of these works have been analysed and summarised in order to formulate a unified approach that can be used in political science, communication research, and public policy analysis. Before presenting a modified version of content analysis, however, there is a need to turn to previous research findings and ideas. One relevant contribution to agreement and disagreement analysis was made in the work of Jennifer Stromer-Galley (2007, 2009), who proposed a systematic way of measuring what happens during discussions in an article that presented a simple procedure for coding and analysing agreement and disagreement. Thus, agreement was determined as a signal of support for something said by the preceding speaker. The presence of agreement promotes rapprochement between different users and improves the rational assessment of the user's arguments (Stromer-Galley & Muhlberger, 2009). Agreement includes a comment that explicitly or implicitly agrees with the statements of other users (Stromer-Galley et al., 2015). A statement of agreement is a statement of concurring opinion. Disagreement is understood as a statement that signals a contradiction of something said by a previous speaker, including the moderator. The presence of disagreement is an essential condition for discussion, which requires a clash of different points of view to avoid cognitive errors and biases (Bohman, 2006). Moreover, the reaction to disagreement indicates the attitude of users towards other opinions and a desire to achieve recognition. Messages are encoded as disagreement when they (1) disagree with the general tone of the discussion (considering the previous message in the topic as the base one), which indicates heterogeneity in the topic; (2) clearly disagree with another commentator in the form of a name tag or response. Thus, disagreement is encoded if, at least, one of two conditions is fulfilled. If two comments criticise one idea, and the other commentator subsequently defends it, then such a message is encoded as disagreement. In addition to phrases such as "I disagree", "I'm not sure about this", "This is wrong", a statement of disagreement may repeat some of the thoughts of the previous speaker, changing small elements to signal a contradiction. The statements may begin with "I agree with this, but ..." or contain a "but" statement, which is meant as a refutation of something said by the previous speaker.

Stromer-Galley, Bryant and Bimber took a step forward and proposed a classification of types of expression of disagreement using the methodology of discourse analysis (2015). The article analysed the ways of initiating/signalling disagreements, qualitative differences in the forms of expression of disagreement in offline and online deliberation, as well as how strongly disagreement is supported in the online environment. One of the difficulties of the study was the classification of types of disagreements in the category of communication culture: soft and bold expressions of disagreement. Soft expressions of disagreement are those that mitigate disagreement with phrases such as "Okay, but", "I agree, but", etc. These phrases are forms of prior agreement. They show a preference for agreement in the sense that they postpone disagreement (Goodwin, 1983). In this sense, the mitigation of differences is closer to what Laden called an "invitation" to reasoning, that is, mutual interaction, "through which we tune in and develop the space of causes in which we inhabit" (Laden, 2012, p. 214). It is assumed that communicative signs such as "I understand your point of view, but", "I'm not sure about this" and "This is not quite right" signal that the speaker thinks about what others say, and therefore may be open to other statements and evaluative points of view. In this way, the speaker modulates his own deliberative participation, pretending that he/she allows other areas of research or remains open to further interaction. A bold disagreement implies a sharp challenge and a direct expression of disagreement. By expressing, for instance, "You are wrong" or "I disagree", the speaker is asserting that the other is wrong or that a certain consideration has not been taken into account (or it may even be irrational) in a manner that signals the absence of common ground in the conversation. In such a situation, the speaker presents themselves as less open to movement based on a common set of reasons (Laden, 2012, p. 214). In this case, decisive disagreements are not considered to be an invitation to joint discussion. Therefore, it is expected that, unlike soft ones, they may entail less motivation to explain the reasoning.

The classification of bold and soft types of disagreement refers to the issue of employing a civil culture of communication when studying online deliberation. These two concepts are related, but they are not the same. Scholarly excitement about bold and soft disagreement comprised a different kind of assessment, and it highlights the ways in which people express their views in dialogue with others whose views do not coincide. The analysis of civility requires a judgment on whether the expression has the intention or effect of showing or failing to show respect to individuals or groups (Steffensmeier & Schenk-Hamlin, 2008). The expression of civil disagreement can be bold or soft. Uncivil expression is never polite, and while bold types of disagreement can lead to disrespect, the analysis eventually limited itself to the fact that there were no complaints about the participants' efforts to express themselves. Instead, the researchers focused on studying the expressions themselves and the ways in which disagreements are conveyed to others, namely, whether disagreement has been formulated in tentative terms that signal a desire to reach agreement. Using this approach, the authors have moved away from the traditional focus on inciting and other aggressive, disinhibited conflicts on the Internet to look for more subtle signs that people who express disagreement signal awareness of social norms of cooperation, politeness and honesty.

Some other researchers have proposed a broader classification of disagreement types, where the focus is shifted to the distinction between uncivil and intolerant expressions of disagreement (Rossini & Maia, 2021). In addition to analysing the presence/absence of disagreement on various discussion platforms, including news sites and Facebook, the question of how much disagreement is associated with such deliberative behaviour as argumentation was considered. The study indicates that the expression of disagreement can be both justified, i.e., encoded, when there is any explanation or clarification to substantiate an opinion, and also unjustified, i.e., encoded as any remark that reveals the commentator's point of view on a topic without any elaboration. However, a more detailed analysis of the forms of reasoned disagreement in terms of the quality of arguments has not yet been found in this work. However, this is an important factor that could contribute to a better understanding of the conditions and challenges for deliberative involvement of citizens in discussions, the impact of disagreement on deliberative process, and its quality.

Another study explored the relationship of disagreement and reasoning in deliberation (Maia et al., 2021). The focus was on analysing real online discussions on forums of legislatures, media and activists in order to study a set of factors influencing reasonable disagreement in the digital environment. A group of traditional studies is devoted to the impact of disagreement on civic and political participation; this study, however, uncovered forms of disagreement that retain a fundamental connection with justification. The results demonstrated that context is significant in shaping online communication, but other variables have even stronger correlations. In particular, mitigation of disagreement, classified as a way of expressing disagreement that signals agreement in a conversation, greatly increases the likelihood of justifying behaviour, and occurs in more categories than decisive disagreement. It was a good attempt to understand the relationship of disagreement and argumentation (simple and complex), but the forms of disagreement and their corresponding consequences deserve more empirical and normative attention for a critical understanding of communicative complexities in the new media landscape.

Another direction of disagreement analysis, ways/tactics in expression, can be seen in the work of Fischer et al. (2022) where a typology of various forms of argumentation (inductive, deductive, causal, analogical, expressing uncertainty and questions) and disagreement were developed. Four main forms of disagreement were identified in deliberation. The empirical examples from this study are provided as well (see Table 1).

As already noted, there is still no research and methodology on the context of analysing the impact of disagreement expressed by participants on further patterns of disagreement in online deliberation. It is important to understand whether it is possible to investigate the impact of disagreement on further stages of agreeing and disagreeing both during and at the end of a discussion process. When it comes to reaching agreement between participants within a discussion, analysing the impact of disagreement on the possibility of reaching agreement, the emphasis is on the communication process and its quality, i.e. how consensus is constructed. When referring to reaching consensus at the end, investigating the impact of expressing disagreement on overall outcome, and achieving mutual understanding, research focus is shifted to the result of a discussion. Therefore, the impact of disagreement on agreement and consensus should be analysed from these two positions in order to understand both the procedural side of deliberation and its effectiveness.

Thus, as a continuation of the ideas of the researchers expressed and disclosed in the earlier studies described above, the methodology may contain the following components of agreement and disagreement analysis:

1. Frequency (analysis of the presence and absence of agreement and disagreement)
2. Initiator (citizen or state official, for example)
3. The subject or object with whom a communicator agrees or disagrees (citizen, state official, politics, information/post on social media, abstract agreement or disagreement)
4. Type of agreement/disagreement in terms of justification (justified/unjustified)
5. Type of disagreement in terms of (in)civility (civil/uncivil; if civil, bold or soft)
6. Forms/tactics of expressing disagreement: question, repackaging: reframing/rephrasing the position, minimising the problem/downplaying the problem, making semantic distinctions, emphasising the vagueness of the formulation of the proposal/evidence, agreeing to disagree; discrediting participants/sources

The general disadvantage of the studies reviewed above is that the coding processes were carried out manually, which could provoke cognitive and coding faults. Undoubtedly, the presented methodology can be automatised, which would enable an acceleration of the coding process, avoid errors of interpretation – especially if the amount of empirical data is very great – expand the scale of traditional text analysis, and identify large-scale patterns and tendencies. It would also solve the problems around coders and the reliability of results. Currently, social sciences offer a vast number of computational methods for text analysis.

Table 1:
Various forms of disagreement in online political conversations

Typology of forms	Description	Examples
Question	The question is not always accusatory; sometimes participants may ask questions to express uncertainty or to demand clarity. Thus, a question can be both a form of argumentation and a method of expressing disagreement.	"How many jobs would it really create? How many people do you need?"
Repackaging: reframing/rephrasing the content/position, minimising the problem/downplaying the problem, making semantic distinctions, emphasising the vagueness of the wording of a sentence or evidence	Some participants may take information from experts, media, opinion leaders (or from their own experience) and use their evidence to repeat comments or questions. Reframing can be used to shift the focus of a conversation, as a method of expressing disagreement. The material can be repackaged by reformulating the position, minimising previously stated problems, making semantic distinctions and emphasising the vagueness of the wording of the sentence or previous evidence.	"I don't, for example, know that there's going to be that big of a problem with increased crime around these dispensaries. That's not my main concern." *(minimising problems)* "That's not something that I would be able to answer either. I'm sorry; I can just give information on the rulemaking process." *(vagueness)*
Agreeing to disagree	Agreeing to disagree means refusing to argue or literally saying, "I disagree with her/him on this issue". Agreeing to disagree expresses disagreement and helps the discussion process continue without lengthy debate over seemingly irreconcilable differences.	"So, we disagree – three of us disagree."
Discrediting other participants or sources	Sometimes participants have to step back from sources or messages to justify disagreements about the argument. Discrediting sources can be combined with other forms of expressing disagreement (for example, agreeing to disagree).	"But it does shed a light on her testimony. I think her testimony is biased. It shouldn't even be included."

Source: Compiled by the author.

Computational Text Analysis (CTA) is an umbrella term for an array of digital tools and techniques that utilises computers and software to analyse digital texts, from individual texts to big data. CTA techniques comprise keyword analysis, named entity recognition, sentiment analysis, stylometry, topic modelling and word embedding modelling. One of the most widespread methodologies of textual analysis is opinion mining, which includes the elements of: identification of relevant text corpora; identification of texts containing opinion among selected text corpuses; determination of the tonality of the utterance of the authors' texts and clustering of documents according to the identified tonality (Bodrunova, 2018). For example, in order to determine pro-government and pro-opposition comments and cross-cutting disagreement on YouTube, Zinnatullin (2023) used a supervised machine learning model of keyword selection, based on a glossary of derogatory words applied to Navalny and his supporters, Putin and the Russian government. The author also managed to detect the potential and constraints of incivility in political discussions as an affective polarisation characteristic, and how people interacted with the pro-government narrative, as presented in the Navalny community. The findings showed that users did not tend to dispute with those who spread extreme forms of incivility and toxicity with a zero potential to deliberate. Moreover, pro-government comments strongly attracted Navalny's supporters, who answered the out-group criticism, and contributed to the emergence of pockets of a pro-government narrative. The study by Stukal et al. (2017) proposed a methodology for distinguishing bots from humans on Twitter. It allowed scholars not only to identify bots among currently active accounts but also to conduct a retrospective analysis, uncovering the dynamics of the use of bots over time. The method provided a conservative evaluation of the bots' spread among all Russian accounts that Tweeted at least 10 times on politically related themes from 2014 to 2015, and revealed that the daily proportion of bots among actively Tweeting Russian accounts in their collection reached as high as 85% during that time. In another work, the same authors presented a deep neural network classifier (multilayer perceptron [MLP]) that employed a wide range of textual features including words, word pairs, links, mentions, and hashtags to separate four contextually relevant types of bots: pro-Kremlin, neutral/other, pro-opposition, and pro-Kiev (2019). Due to the computational complexity of training MLPs, they split the labelled set into training (80%), development (10%), and test (10%) sets instead of performing cross-validation. Their method relied on supervised machine learning and a new large set of labelled accounts, rather than externally obtained account affiliations or elites' orientation. The researchers demonstrated the usage of their method by applying it to bots operating on Russian political Twitter from 2015 to 2017 and showed that both pro- and anti-Kremlin bots had a substantial presence on Twitter. Continuing the consideration of usage of various computational methods for text analysis on social networks, it is worth noting thematic modelling as a data analysis method, which enables the identification of themes or hidden meanings within a large volume of textual data. It is used to automatically categorise documents based on the similarity of their contents. Thematic modelling clusters texts by topics isolated from a set of words or phrases that are frequently found in those texts. Each cluster corresponds to a specific topic and can be described by a set of keywords. These keywords reflect the content of the texts in the cluster. This simplifies the analysis of textual data, allowing hidden connections and patterns to be identified, and helping informed decisions to be made based on the data. For example, such a tool was employed in analysing Russian comments from the Telegram messenger and VK.com social network in research by Nizomutdinov and Filatova (2023) who used the Gensim thematic model, which is based on the LDA (Latent Dirichlet Allocation) algorithm. This algorithm aims to search out hidden topics in a large amount of text data. The LDA algorithm enables the identification of the most likely topics in text collections.

Conclusion and discussion of future research venues

The overview demonstrated a variety of deliberative studies on agreement and disagreement, including methodological approaches, employed in political communication research. Although the scholarship contained some works on agreement in political conversations, it explicitly and predominantly focused on the issue of disagreement since this represents a greater threat to democratic deliberation and civic engagement, especially in conditions of exogenous shock. In the work, a few gaps were detected (RQ1) and a few directions have accordingly been proposed (RQ4). The first lacuna is the lack of research on productive and communicative directions in online deliberation. It was concluded that the institutional input currently dominates the deliberative agenda. Agreement and disagreement can be considered both as results of online deliberation and as endogenous parameters of political discussions that may generally influence a deliberative process and its dynamics. It is, therefore, relevant to distinguish the research problem, and not mix these approaches. There were no works that systematically analysed the relationship between expressions of disagreement and agreement, the influence of these parameters on each other and on further processes of conversation. Moreover, as proposed by previous studies, it is necessary to continue research on factors that influence the participant's experiences and the amount of disagreement as a theme of deliberation and moderator activity. Since the ideal purpose of deliberation is to achieve consensus or cooperation – which may be accompanied by an enormous number of disagreements and agreements on certain positions – this gap is a missed opportunity in understanding the processes of agreeing and disagreeing. Investigating the impact of agreement and disagreement on final consensus (which can be absent, indeed) seems to be acutely worthy of consideration in future research. The second gap correlates with a lack of understanding of the dynamics and types of agreement and disagreement in online discussions, and the factors that may provoke an increase or decrease them in the periods of crises. As an issue of rational and independent political communication still exists, it is evident that these issues should be more attentively studied. It has been noted that online deliberation and its quality are habitually explored during periods of socio-economic and political certainty; however, how do agreeing and disagreeing patterns in networked political conversations of citizens and state officials transform? Can citizens and government agencies find a solution together and collectively make reasonable decisions in such conditions? Therefore, the ways in which consensus/cooperation can be achieved in the discussions on different online platforms in the crisis should be studied in detail. The result would allow us to see how the government structures should interact with citizens and respond to their disagreements or complaints in a constructive manner, rather than moderating or deleting them.

The third lacuna corresponds to the political context where a problem of agreement and disagreement is explored. Predominantly, studies consider online deliberation in democratic countries, however, there is a huge gap in comprehending the role and quality of digital deliberation in non-democratic states such as China and Russia, for example. Thus, it is necessary to go beyond democratic conditions as that would give a broader view of the role of disagreement in political communication and the way non-democratic governments react or respond to it. As for Russian studies, the number of empirical studies focused particularly on patterns of disagreement in online discussions on socio-political issues is very limited (Bodrunova et al., 2021b; Volkovskii et al., 2024) as disagreement usually serves as a variable of quality in deliberative discussion (Savin, 2019) or in the context of social media influence on political behaviour of participants and their digital activity (Bodrunova, 2021). However, there are already some empirical results confirming that, in some cases, the more state officials respond to comments containing complaints from citizens or opposition to the state's position, the worse they get, and the number of complaints or disagreements from citizens increases (the government, therefore, prefers not to respond in order not to increase the flow of disagreement and negative statements) (Enikeeva et al., 2023). To reconsider the role of agreement and disagreement in those countries where government agencies employ authoritarian deliberation practices would be significant and address the concept of deliberative authoritarianism, which was proposed by a Chinese political scientist (He, 2006). The combination of authoritarian governance and deliberative mechanisms has been studied in China where deliberation functions as an information resource through which the government forms public policy, receives support from citizens, and eliminates disagreements and those who express them. The government has a monopoly on decision-making, while citizens only take part in deliberative processes without having any impact on them. As a result, the discussion about political deliberation in non-democracies raises a theoretical discussion on what concept should be put in the theoretical carcass of deliberative studies. It is evident that a Habermasian understanding of democratic deliberation is no longer applicable to the study of online deliberative process as it appeals to normative claims and principles of political communication that are impossible even in the most developed contemporary democracies. Furthermore, the political context matters, so if studies correlate with an exploration of the deliberative mechanisms used by non-democratic governments, the concept of democratic deliberation proposed by Habermas or other deliberative democracy theorists would automatically be nullified. In this case, the concept of authoritarian deliberation proposed by He, should be employed. However, there is more one problem linked to political regime and communication tools because the practice of authoritarian deliberation can be traced even in the Western democracies. We should be careful in these details and use an individual approach to case studies. More research on this phenomenon should be conducted in order to clarify how theoretical claims on deliberation can correspond to empirical reality.

The fourth gap concerns the relationship between incivility and disagreement/agreement. The link between these elements calls for further study, taking into account the impact of such factors as political regime, crisis/non-crisis situations, digital platform, topic, moderation, and the activity of bots. As indicated in earlier works (Volkovskii et al., 2023), the deliberative theory argues that political discussions should be polite and respectful towards communicators and their views. However, some empirical research confirms that not all networked political dialogues are civil in nature because elements of hate speech are often present (Bodrunova et al., 2021b; Volkovskii & Filatova, 2023). The analysis suggests that uncivil messages can be produced by any user, not only by trolls and bots (Theocharis et al., 2020), and users distinctly consider using incivility, intolerance, and violent threats, despite such intolerance and incivility eliciting similar content moderation responses (Pradel et al., 2024). All these findings prompt study of the way disagreement correlates with incivility, intolerance and violent threats; whether or not there is moderation, and where there is, which factors influence it. In this regard, the theory of cumulative deliberation could be an important theoretical basis for such studies, interpreted as (1) the process of accumulation, redistribution and dispersion of public opinion (opinions) created by the participation of Internet users with a variety of institutional status in online discursive activities; and (2) the influence of accumulated opinions on the positions of institutional actors and discourses, including the work of the media and policymaking (Bodrunova, 2023). The basic contribution of this theory is that it accepts the deliberative imperfection of user thinking and their behaviour, which may include the use of uncivil speech elements but within the terms of the legislation. This statement causes us to reconsider the normative prism of online communication and broaden the research of communication culture, going beyond the borders of classic theories of deliberation. Thus, some scientists have even pointed out the constructive functions of aggressive and obscene speech, urging that it should not be removed from online discussions by automatic filtering (Masullo Chen et al., 2019; Bodrunova et al., 2021a) because it can play a constructive role – both in stimulating heated discussion and in contextualising it.

In this research, three groups of studies dedicated to the effects of political disagreement have been highlighted (RQ2). On the one hand, the research value of timely and thematically varied works is great when exploring the consequences of disagreement because they provide a clear view of the state of the research field and of what has been investigated previously by scholars. In this way it is possible to confirm or reject the current outcomes by providing more new studies in the domain that can contribute to a better understanding of research design and methods and the various types of interpretation techniques for results, as well as clarifying the differences and challenges posed for researchers in the field of political communication. On the other hand, it makes constructing general theoretical claims that might be used for composing hypotheses and explaining how theory might help scholars comprehend the empirical reality rather complicated and tricky. This is because the quality of political communication varies from one example to another because many endogenous and exogenous factors can influence it. This is, therefore, a motivation to precisely discover what has a considerable impact on communication, including agreement and disagreement, as relevant elements of that. Also, great attention should be paid to the accuracy of research design and methods as they influence the results, as well as their role in the general theoretical context, which in turn may trigger debates among scholars and impede the achievement of consensus.

As for methodological approaches in analysing agreement and disagreement in online deliberation (RQ3), a few significant examples were considered, which enabled the formulation of some general parameters for analysis such as the presence/absence of agreement and disagreement; the initiator; the subject or object with whom a debater agrees or disagrees; type of agreement/disagreement in terms of justification and (in)civility; forms/tactics of expressing disagreement. This methodological elaboration can be developed in further research and be integrated into studies of political communication and public policy. However, if research employs large amounts of textual data, then computational methods of text analyses are relevant, some of which have been highlighted in this work. Furthermore, it was noticed that researchers had mainly employed survey methods or experiments in order to study agreement/disagreement and its effects on political discussion. Consequently, more studies using computational methods of text analysis based on real empirical data need to be conducted in order to fully comprehend the nature of online disagreement, the factors that trigger it and its consequences for the further dynamics of deliberation.

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ARTICLE

Public Perceptions of People-Centric Political Actions

A Qualitative Analysis of the Views of Hungarian Adults on Political Elite Measures

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People-centrism is one of the fundamental elements of populism. However, qualitative research that tries to interpret a specific part of the demand side of populism – the people's perceptions of people-centrist political actions – is scarce. In this paper, therefore, we analyse the perceptions of Hungarian adults of the people-centrist measures conducted by the domestic political elite, and scrutinise a large dataset of semi-structured interviews (n = 109) through thematic content analysis. Our results suggest that respondents deemed three important political actions by the Hungarian political elite to be 'people-centrist': family subsidies, immigration policies and tax reductions for younger citizens.

Keywords: populism, people-centrism, Hungary, thematic content analysis, semi-structured interviews, political perceptions

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Introduction

Populism and its fundamental element, *people-centrism,* have been in the scope of research fields such as psychology, political science, communication studies and philosophy (Bene et al., 2022; Canovan, 1984; Eatwell & Goodwin, 2018; Laclau, 2005a; Lantos & Forgas, 2021). Researchers aim to understand the way in which political agents construct the imagined community (i.e. *the people*) that they appeal to in their discourses. Additionally, scholars have tried to reveal how people-centrism affects user engagement, elicits the support of populist parties and fosters in-group solidarity (Bobba & Roncarolo, 2018; Hameleers, 2021). Although such empirical research on people-centrism has delivered important insights into how populist logic, attitudes and communication prevail in a variety of contexts, only a few studies have focused on populist people-centrism from qualitative perspectives (Miglbauer, 2023; Theuwis, 2024; Versteegen, 2023). This paper aims to fill this research gap by scrutinising the perceptions of the domestic political elite among Hungarian citizens. Specifically, we have striven to determine whether Hungarian citizens deem any political action conducted by the political elite to be people-centrist. This research perspective can provide a nuanced understanding of people-centrism from the demand side of populism. In other words, we find it important to explore the perceptions of citizens qualitatively with regard to the political legislation, subsidies, petitions, etc., that they deem to have been *in the people's interest.* This analysis could pave the way towards understanding the manner in which populist logic trickles down to the experiences of citizens through perceptions of 'popular' measures initiated by the Hungarian political elite. Of course, this article does not suggest that every Hungarian is populist *per se;* however, a recent study found that Hungarian adults are more populist than not when scholars measured the level of populism on the scale developed by Akkerman et al. (2014) on a representative sample (Tóth & Lantos, 2024). In consequence, we argue that it is important to qualitatively analyse the perceptions Hungarian adults have of people-centrist measures. Finally, this qualitative study could pave the way for context-specific quantitative analyses in social sciences: for example, the findings might help scholars develop experiment stimuli in communication studies that can tap people-centrism in Hungary, which is the role model for many right-wing populist agents (AFP, 2025).

Hungary is a relevant case in point because populism has permeated this country in several ways. First, many researchers argue that the Hungarian Government and its leader, Viktor Orbán, are populist in terms of leadership and communication style (Bene & Boda, 2021; Weyland, 2024). Scholars have also highlighted that Hungary is interesting – and an outlier within the European Union – because elsewhere most populist forces are either in opposition or they are in power relatively briefly (Csigó & Merkovity, 2016). This is not the case in Hungary, however. The right-wing, conservative Fidesz-KDNP coalition has held four consecutive two-thirds majorities since 2010, giving it overwhelming power to which there was no serious oppositional political challenger until the spring of 2024. We must emphasise that in communication terms, populism suits not only the Hungarian Government but also almost all the opposition parties and their leaders (Tóth, 2020). Put differently, populism has become an essential, inextricable element in the Hungarian political sphere (Tóth et al., 2019). Researchers have also revealed that specific attitudes, such as *collective narcissism,* predict the support of populist political forces among Hungarian voters (Lantos & Forgas, 2021). Another piece of research found that there is no significant difference between the level of anti-elitism in the attitudes of Hungarian pro- and anti-Trumpists (Zsolt et al., 2021). In turn, the above research concluded that the most significant differences between the attitudes of the two groups emerged at the level of in-group solidarity: pro-Trumpists emphasised the importance of in-group solidarity more than anti-Trumpists. This attitude also predicts a desire for higher levels of swift action and for the rejection of pluralism. Finally, extensive research has found that relative deprivation is a significant and positive predictor of populist attitudes among Hungarian adults: the more people feel that they do not get what they deserve while others thrive, the stronger their populist views are (Tóth & Lantos, 2024).

This paper has the following structure: 1. we outline the definition(s) of populism and its core element, people-centrism; 2. we briefly introduce the Hungarian political situation and its ties to people-centrism to contextualise this case study; 3. we introduce our data collection and analysis procedures; and, 4. having introduced the most important results, we interpret our findings in the discussion and conclusion. This study relies primarily on a qualitative technique and thematic content analysis at a semantic level (Braun & Clarke, 2006) to analyse semi-structured interviews (n = 109) with Hungarian adults. The main aim of this explorative study is the interpretation of interviewees' perceptions of political measures that they deem to have been people-centrist.

Theoretical background

In the following subsections, we aim to introduce the most prominent scholarly interpretations and categorisations of populism. This part of the study is necessary because *populism* is a blurry term in social sciences due to its chameleonic nature (Kazin, 1995; Ostiguy, 2017; Taggart, 2000). We then go on to demonstrate how the Hungarian case fits into the logic of populism and what the political context in this country is. Introducing the Hungarian political context is sufficient to understand why populism has been so powerful both on the supply (e.g. the political elite) and demand sides (e.g. the citizenry) of this political phenomenon.

Populism

Cas Mudde's (2004) *ideational approach* is one of the most prominent, if not the most influential, research aspects in contemporary studies of populism. Mudde (2004) argues that populism is a thin-centred ideology that separates society into two antagonistic and homogenous groups: the *corrupt elite* and the *good people.* This ideational approach also highlights that populism revolves around the idea that the political elite has to follow the people's will unconditionally (Mudde, 2017). The above scholarly perspective outlines that the political elite disregards the majority's interests because it is detached from the people's demands, while supporting only hostile minorities (e.g. the establishment or immigrants). The populist distinction between the people and the elite relies on morality: in the ideational approach, the former group is always glorified, while the latter is demonised as stealing from the hard-working masses, misleading the people, and risking their security and welfare (Hameleers, 2018). Mudde (2017) emphasises that everything in populism, including the elite, takes its meaning from the imagined glorified community, *the people.* This ideational approach allows political agents to be categorised as populist or non-populist, it bypasses regional and temporal constraints, and can analyse both top-down and bottom-up political phenomena.

Other scholars interpret populism as a political communication style. Jagers and Walgrave (2007) argue that without *people-centrism,* populism is unimaginable. People-centrism (also referred to as *empty populism*) can be achieved through anti-establishment and exclusionary messages. If all of the above elements appear together in the same coding unit, complete populism kicks in (Jagers & Walgrave, 2007). Other scholars argue that populist communication has implicit and explicit versions: the former style implies either people-centrism or antagonism alone, whereas the latter implies both within the same content analysis unit (Tóth et al., 2024). Extensive research has found that simple, emotional and negative (campaign) communications are important parts of the populist political communication style since politicians try to depict themselves as agents who are close to the people (Bene et al., 2022; Ernst et al., 2019; Lin et al., 2023). This is an essential element in the communication tactics of populists because they do not want people to feel they are being left behind, a recurring perception of the masses regarding their relation to mainstream politicians (Eatwell & Goodwin, 2018). Finally, scholars also claim that many (non-) populist politicians utilise the above stylistic elements in a fractured way: they use people-centrism but avoid anti-elitism or vice versa in order to keep their communication simple, to cut across ideological differences between citizens, and to avoid being labelled as populist, which has negative rather than positive connotations (Engesser et al., 2017).

Weyland (2017) considers populism a strategy through which a charismatic leader, either in government or opposition, opportunistically establishes a direct relationship with the masses, bypassing party politics and formal policy programs. According to this approach, populism has no ideology or policy agendas because it is a distinct mode of gaining and maintaining power. The populist leader conveys the impression, through simplistic, emotionally charged and dichotomous political communication, that they speak directly to, for and *in the name of* the people, circumventing traditional intermediary mechanisms such as parliaments or the media, thereby setting the political agenda themselves. Populist leaders try not to depict themselves as distant representatives driven by self-interest but instead portray themselves as the sole embodiment of the *volonté générale* (Weyland, 2001). Frequently, such leaders exhibit charismatic personalities and employ emotionally charged and rhetorically polarising tactics to position themselves as protectors against internal or external adversaries. These leaders frequently disregard the constituents of pluralism, such as competing ideas and experts, because these are depicted as agents who oppose the will of the people.

Laclau (1977, 2005a, 2005b) argues that populism is a discursive logic by which politicians aim to unite the people through their unsatisfied demands. If there is a severe crisis and the authorities (e.g. governments) are unable to mitigate it, the desires of the masses become demands, and the stability of the reigning political regime begins to erode. In such situations, the populist moment unfolds, and the people can be united via anti-elitism rather than developed societal or political programs. During a crisis, populist anti-elitism can pave the way to destabilising regimes in contrast to those periods and places when economic, societal, security and political issues are not so severe or in countries where institutions are trusted more (Mouffe, 2018). According to the logic of populism, there is no common ground between the *corrupt* political elite and the *good* people: if there were, then the distinction between these groups would not be radical enough.

Scholars also view populism as an attitude that revolves around the idea that ordinary citizens should make the most important decisions and elected officials should follow the general will, and that the political distance between the politicians and the *volk* is enormous (Akkerman et al., 2014; Castanho Silva et al., 2020; Wettstein et al., 2020). Researchers analyse populist attitudes to understand the people's relationship (e.g. the extent of disappointment or trust in representative systems) to the elite or and how these attitudes connect to other psychological traits such as relative deprivation, tribalism, or collective narcissism (Ditto & Rodriguez, 2021; Krekó, 2021; Lantos & Forgas, 2021).

All the above aspects suggest that people-centrism is an essential part of populism, while anti-elitism completes this thin concept to broaden the susceptible group of citizens as far as possible. People-centrism, moreover, appears in the discourse of almost every political agent because they try to maximise their support. Anti-elitism, however, tends to attach more to the parties on political fringes or non-incumbent agents (Bonikowski & Gidron, 2016; Pytlas, 2022).

In this paper, we regard people-centrism as the combination of the Laclauian concept and attitudes. In other words, we argue that respondents can perceive that people-centrist measures are in the interest of the masses, thus they could be united into imagined communities (Anderson, 2006). These perceptions can be rooted in respondents' populist attitudes, that is, demanding the people's sovereignty and claiming that the political elite has to follow the general will unconditionally.

The Hungarian context

Hungary has experienced much economic turmoil since the collapse of the state socialist system: high unemployment rates, severe inflation, the great recession following the collapse of Lehmann Brothers and the Covid-19 pandemic, which also shocked the country's economy (Böröcz, 2012; Dövényi, 1994; Palonen, 2009, 2018). In 2006, the political situation changed after Prime Minister Ferenc Gyurcsány 'admitted' on a leaked recording that his ruling coalition had deliberately lied to the Hungarians about the worsening economic condition of the country. Since then the socialist-liberal coalition has lost the majority of their voters' support. Meanwhile Fidesz-KDNP and its unambiguous leader, Viktor Orbán, has been ruling Hungary continuously since 2010. Between 2010 and 2019, the unemployment rate in Hungary decreased from 11.3% to 3.5%, and while it increased to 4.5% in 2024, it remains low in comparison to the 1990s or 2000s (KSH, 2020, 2025). This achievement may have paved the way for the right-wing conservative government to maintain its power.

Additionally, from the early 2010s, the Hungarian Government confronted the IMF, the European Union and foreign businesses such as George Soros (Scoggins, 2020). From 2015 onwards, Fidesz-KDNP placed its anti-immigrant stance on the political agenda when the refugee crisis surged due to military conflicts in Iraq, Syria and other territories (Bíró-Nagy, 2022). The Hungarian Government also levied excess profit ('windfall') taxes on banks to protect the budgets of Hungarian citizens while also launching a reduction in overheads by lowering fees on utility bills (Benczes, 2016; International Trade Administration, 2024). Fidesz-KDNP also initiated subsidies for many families: one key measure introduced in 2019 was the lifetime personal income tax exemption for mothers with four or more children (Albert, 2020). Under this policy, mothers who have given birth to and raised at least four children are permanently exempt from paying personal income tax, providing long-term financial relief (Dunai, 2024). Since 2022, young people under the age of 25 have been exempt from paying personal income tax, providing them with greater financial independence. This measure was intended to support young workers and encourage their early participation in the labour market. Another major initiative has been personal income tax exemption for young mothers, introduced in 2023, which allows mothers under the age of 30 with at least one child to be free from personal income tax until they turn 30, further supporting young families. From 2025, mothers with two or three children will no longer need to file tax returns, further simplifying the tax system for families.

The Hungarian Government has adjusted its policies to the populist logic when its legislation has been extremely unpopular: in 2014, the Hungarian Government proposed a so-called internet tax, which would have imposed a fee on internet usage based on data consumption; and in 2015 they introduced an act restricting Sunday trading for large stores. Both pieces of legislation were withdrawn following a public outcry.

Against this backdrop, our research question is:

RQ: *How do Hungarian citizens describe any perceptions they have of the domestic political elite's people-centrist measures?*

Methods and materials

We conducted a thematic content analysis at a semantic level to interpret the perceptions of Hungarian citizens of the people-centred measures conducted by the Hungarian political elite. The Hungarian political elite includes both members of parliament (MPs) and political parties because these agents could bring about or initiate changes at a national level that fit the populist logic that addresses the majority of the citizenry. In contrast, mayors are probably unable to have such influence because they operate at a local (municipal level), and so do not fit the populist logic that contrasts the majority of the population to hostile minorities, first and foremost, the political elite. Due to the characteristics of the thematic content analysis technique, we inductively and manually coded interviewee answers to the following questions:

> Were there any political decisions or actions taken by the Hungarian political elite (MPs or parties) in the people's interest?
> If so, what were these decisions, and what do you think about them?

If the participants found the above questions too general or unclear, the interviewers added the following comments to help interviewees express their experiences:

> *If the above question is too general, let us focus on the last ten years of your experience. Any legislation, subsidy, demonstrations, petitions, consultations, referendums, etc., can be relevant.*

The paper relies on the database for a larger project in which we scrutinised the political perceptions of Hungarian citizens on relative deprivation, political expectations and their assessment of the Hungarian political elite's responsiveness to popular demands. Our dataset contains 109 interviews. Table 1 shows the descriptive statistics by age of participant. In four cases, data is missing because four participants did not share information on their ages. We were able to analyse the semi-structured interviews conducted with them, however, because they were willing to participate in the conversations. Since the average age of the Hungarian population was 45.1 on 1 January 2024 (KSH, 2024), our data mostly represents younger Hungarians (mean age = 36.45). However, one-quarter of the participants were over fifty years old and the age range extended from 18 to 81, which suggests the dataset we built is diverse. The highest median age (*Md* = 53) was observed among tenants in villages, whereas the lowest median age (*Md* = 23) was recorded among those residing in Budapest at the time the conversations took place. Settlement types are also indicative of diverse data with interviewees from villages (10.8%), county seats (19.6%), cities (33%) and the capital city (36.27%) participating in the research. Participants resided in thirteen of the nineteen Hungarian counties. Regarding gender, 52% of the interviewees identified themselves as female, while 48% identified themselves as male.

In this study, university students conducted semi-structured interviews with the participants in exchange for extra points between September 2023 and November 2023. Each student conducted interviews with two Hungarian adults (one female and one male), who consented to participate in the conversations. The students were asked to find adults among their friends or family members who were open to discussing their economic, political and cultural perceptions. The students were asked not to conduct interviews with each other or their classmates.

Every student was trained prior to the interviews: the author conducted semi-structured interviews with a few non-student adults to demonstrate the strengths and pitfalls of the method. The interview questions were accepted by the university's Department for Science Strategy. The questions were shared with the students two weeks before they started data collection. The interviews were saved as voice recordings, and the students provided anonymous transcripts for each conversation. The participants were informed that they could contact the author via their institutional e-mail address if they had any comments or

Table 1:
Descriptive statistics on participants' age and settlement types

	Age			
	Village	**Capital City**	**County Seat**	**City**
Valid	11	37	20	34
Missing	0	0	0	0
Median	53.000	23.000	44.000	36.500
Mean	50.818	28.838	37.200	39.029
Std. Error of Mean	3.984	2.180	3.010	3.076
95% CI Mean Upper	59.694	33.259	43.500	45.287
95% CI Mean Lower	41.942	24.416	30.900	32.772
Std. Deviation	13.212	13.261	13.462	17.933
Variance	174.564	175.862	181.221	321.605
Range	50.000	61.000	36.000	62.000
Minimum	19.000	20.000	18.000	19.000
Maximum	69.000	81.000	54.000	81.000
25th percentile	46.500	21.000	21.750	22.000
50th percentile	53.000	23.000	44.000	36.500
75th percentile	58.000	28.000	47.000	51.750

Note: Seven rows were excluded from the analysis that correspond to the missing values of the split-by variable settlement type.

Source: Compiled by the authors.

complaints regarding the interviews or the topics. For a week after the conversations had been completed, the interviewees were offered the option of requesting the erasure of the entire interview. The participants could also ask interviewers to delete specific sections of their responses if they did not want to release their opinions about particular questions. None of the interviewees contacted the author to erase the full interview or to address any complaints. If participants did not want to share their views on specific questions, the interviewers either did not transcribe or deleted those parts of the conversations. The interviewers were asked to delete the semi-structured voice recording after the transcription had been sent to the author to protect the anonymity of the participants. One interview is missing due to data loss issues but the rest (n = 109) of the transcripts were saved to a protected, cloud-based drive and a protected hard drive. Every student received the plus points for this assignment.

We manually conducted the thematic content analysis in MAXQDA Analytics Pro software that helps researchers analyse mostly, but not exclusively, qualitative data. The coding units were participants' responses to the questions outlined at the beginning of this subchapter. We also used MaxMaps in MAXQDA to visualise the connections of themes (codes) on people-centrist measures (see Figure 1). Although our main analytical approach is qualitative, we argue that providing a visual depiction of the connections between the people-centrist themes paves the way for future quantitative studies. 'Connection' means in this sense that if there is an edge between two themes, both codes appear within the same answer of the participant that describes their perceptions on people-centrist measures initiated by the Hungarian political elite. For example, the response of participant 96 (Age 18; gender: male; settlement type: county seat; considered himself religious) included two themes regarding the people-centrist measures of the Hungarian political elite:

> I think that was the migration policy. Especially if you look at the consequences in other countries of the European Union. Migration brings about serious social and economic changes, which do not lead to good consequences. Another is the support for various multinationals. Lately, a lot of factories or plants have been built, which creates extra jobs. Thus, the economy continues to grow.

In the above excerpt, we coded two themes: Migration Policies and Creating Jobs. In this situation, the connection between the two themes is one. If there were another participant who considered these categories people-centrist measures, the connection between the themes would rise to two.

Finally, excerpts from the interviews were translated with the free version of DeepL.

Results

We identified thematic sub codes (n = 35, total frequencies = 162) inductively to characterise citizens' perceptions of the political elite's people-centrist measures (Table 2). One striking result is that subsidies supporting families and immigration policies have the largest frequencies, followed by tax cuts. This means that approximately one-quarter of the respondents deem the Hungarian political elite's legislation on family subsidies to be people-centrist, while almost one in five claimed that the restrictive policy on immigration had been launched in the interest of the people. However, when we take a closer look at the answers, the situation is more complex.

Although many respondents think that measures such as the Family Housing Allowance, the personal income tax exemption for mothers with four or more children, and tax benefits for young people all fit the people-centrist category, they also express rational criticisms. These arguments highlight their uncertainty regarding the ambiguous, long-term effects of these policies on demographic challenges. On the other hand, they acknowledge that tax and loan benefits for families were intended to increase the rapidly shrinking Hungarian population, which is decreasing by approximately 32,000 annually (BBC, 2019). Respondents also emphasised that some subsidies, such as the Family Housing Allowance, caused real estate prices to soar. Respondents also outline that these measures are generally perceived as substantial efforts to improve the material well-being of families:

> [...] I would like to highlight the family policy. [...] I find it difficult to imagine reversing demographic trends because that would require a great many things, primarily education, but I support family policy measures, and it would be good if they were better, more forward-looking, and therefore, I consider them a little ad hoc. It would be good if the consequences of these measures were assessed in advance, and to say that some people do not really take advantage of

> these measures, but abuse them and that these measures have had results such as a jump in house prices, which could have been eliminated if they had been thought through more carefully.
> (Respondent 41; Age: 70; gender: male; settlement type: village; considered himself a lower-middle class citizen; 'used to be active in politics'.)

Interestingly, participants do not talk about these subsidies merely at a local but at a regional level. One of the respondents contrasted the Hungarian family support system with legislation in other countries. In general, her experience was that the Hungarian family support, which many experts consider to be very generous, fascinated international partners. Therefore, Hungarian subsidies on family support brought the attention of experts from other nations. This aligns with the perception of people-centrist measures: families cover much, but not 99% of the population, which is a recurring theoretical problem in studies on populism. Scholars struggle to find measures in favour of the overwhelming majority (everyone minus the elite) that opposes the elite simultaneously:

> *[…]* there were round-table discussions to learn about family support measures in one country and another, and how work and private life are reconciled. And when the Hungarian expert explained how many family support measures we have, the Austrians' jaws dropped. […] when we left the event and were standing in the canteen, there were an extraordinary number of people who came up to us and said, 'Hey, listen, what's going on in your country?' So, I think these measures are extremely good.
> (Respondent 106; Age: 39; gender: female; settlement type: county seat; considered herself religious, conservative intellectual.)

Another notable theme emerging from the responses is the notion that these family support policies operate independently of political affiliation, implying that their benefits extend to many citizens regardless of their ideological stances. This perspective reinforces the idea that the approach of the political elite to family policy is not solely driven by partisan considerations but rather aims to serve the people's interests. However, this view is counterbalanced by the argument that these policies, while presented as measures to support families, might disrupt the Hungarian economy:

> […] it's a nice plan, and it's really in the interests of the people, so to speak, and the government did it, and it was very good for us, but in the long term, for example, I don't think it was economically worth it. So, I think that the disastrous Hungarian economy will still suffer much greater losses, and I'm not saying that we shouldn't have it, because I'm personally happy about it.
> (Respondent 64; Age: 20; gender: female; settlement type: town; did not categorise herself into social groups.)

Table 2:
Descriptive statistics for people-centrist themes in the participants' responses

Specific people-centrist measures	Segments	Percentage
Family support	37	22.84
Migration policies	29	17.9
Tax issues	11	6.79
Price caps	7	4.32
Sure, but no example	6	3.7
I don't know / None	6	3.7
Economic policies	6	3.7
Reduction of overhead costs	6	3.7
Staying away from war	5	3.09
Pandemic	5	3.09
Joining the EU	4	2.47
Pension	4	2.47
If people resist, they let it go	3	1.85
Organising international sports events	3	1.85
Loan facilitation	3	1.85
Consultation	3	1.85
Public transport ticket	3	1.85
Restoration of the past	2	1.23
Conflict within the EU	2	1.23
The opposition's primary	2	1.23
No Sunday trading	1	0.62
Real estate construction	1	0.62
Anti-LMBTQ	1	0.62
Strong foreign policy	1	0.62
Two-Tailed Dog Party	1	0.62
Improving the countryside	1	0.62
Supporting tourism	1	0.62
Governing during the pandemic	1	0.62
Solar panels	1	0.62
Restoration of the past	1	0.62
Healthcare reform	1	0.62
Education reform	1	0.62
National politics	1	0.62
Support for Hungarian business	1	0.62
Joining NATO	1	0.62
Total	162	100

Source: Compiled by the authors.

Similarly to the family support policies, respondents articulated their perceptions on (anti-) immigration policies in a nuanced way. Interestingly, while interviewers used extra questions to explore participants' opinions in detail, many respondents addressed the issue of immigration extremely briefly: they either used the expression 'migration policies' or stated that 'the government handled immigration well'. Although many respondents suggest that strict immigration policies were in the majority's interests, some criticisms still arose from respondents:

> The policy of isolation in the migrant situation was basically a good initiative, but unfortunately, in hindsight, it was hypocritical because we were showing something to the outside world, but in reality, this was not the case, for example, we allowed people with criminal records to enter and pass through because it was in our interests. The idea was good, the execution was not.
> (Respondent 2; Age: 23; gender: male; settlement type: capital city; considered himself Hungarian but not nationalist.)

> The only measure I agree with is the one on migration. Although there are mismatches here, the fact that they are trying to save what can be saved at the border is a good thing. Of course, there is the opposite of this, when they bring in Filipino workers to work in the factories.
> (Respondent 15; Age: 44; gender: female; settlement type: county seat; considered herself a feminist and a conservative.)

> Including stopping migration at the protective border and building the border fence. This was a very expensive thing, very costly, costing 100 billion euros, since the Hungarian government has been doing a lot of work on this. I think that people still think that, overall, this is in their interest, and they accept it and, despite the fact that it has cost a lot of money, they support it.
> (Respondent 105; Age: 41; gender: male; settlement type: provincial town; considered himself mainly conservative but also liberal to some extent.)

It is difficult to work out who the 'people with criminal records' were in the above response (Respondent 2); however, it is possible that the respondent was reflecting on the so-called residency bond program, which was in force between 2013 and 2017: this legislation granted nearly 20,000 permanent residence permits to investors and their families, primarily from China, Russia, the Middle East, and Africa (Erdélyi et al., 2018). This program allowed individuals to obtain Hungarian residency – and thereby access to the European Union – by investing €250,000 to €300,000 in special government bonds (Erdélyi et al., 2018). Investigations suggest that some beneficiaries posed security risks. Thus, the program faced criticism for its opaque processes as investments were handled through intermediary companies with unclear ownership, selected without public tenders (Erdélyi et al., 2018). Despite concerns, authorities have resisted disclosing the identities of bond purchasers, citing privacy reasons. The program was suspended in 2017 (Parlament.hu).

Considering the Hungarian political elite's immigration policies, interviewees think that this policy was to protect the 'borders' of Hungary. However, the above answers suggest that the Hungarian political elite could have been stricter or spent too much money on this policy. Interestingly, although many participants emphasised that 'protecting the borders' is people-centrist legislation, none of them said explicitly that immigrants threaten the safety of Hungarian citizens. Specifically, one of the recurring arguments is not to let 'everybody' into Hungary because immigration might create major *cultural* changes:

> But I would still say that if we look at the whole thing, the management really did look after the interests of the Hungarians. And the reason is that who knows who we are letting into our country. You know […] lives in Italy. There are a lot of immigrants there, and the problem is that they simply don't adapt. They bring a certain culture and try to impose that culture here in Hungary or in the country they are going to. I know that this would just be a transit country. But who knows?
> (Respondent 37; Age: 57; gender: female; settlement type: village; considered herself a middle-class, liberal citizen.)

The above answer relies on the distinction between the *in-group* (inhabitants) and *outsiders,* with immigrants depicted as culturally incompatible and unwilling to assimilate. This answer aligns with nativist populism, which often emphasises the preservation of national identity against perceived foreign influence. Additionally, the excerpt implies that Hungarian decision-makers were aiming to protect the interests of the people, which were under threat and had to be defended against potentially harmful policies. The invocation of uncertainty and the risk posed by migration contribute to a narrative in which safeguarding the people necessitates exclusionary measures. The main underlying idea above this reflection is conservativism: maintaining the current order of society, preserving traditions, resisting globalisation and keeping other cultural customs out of the in-group are embedded in this answer.

While many respondents claim that the restrictive immigration policy was a people-centrist measure, some argue that Hungary would possibly not be the final resort but a transitional country for immigrants. Some respondents conspicuously avoided mentioning that restriction on immigration was important to them, concealing their positions on this issue, with the exception of those apposed to immigration.

The third most prominent people-centrist theme we explored in scrutinising the interviews was 'tax issues'. Most of these responses suggest that ending personal income tax for those under the age of 25 was a people-centrist legislation by the government:

> The exemption from income tax is the only example that concerns me personally, and I am glad that it does, because it is very difficult to manage housing as a young person, for example, and many people are still studying under 25, so they cannot work full-time. And for such people, it makes a big difference whether they receive a net or a gross salary.
> (Respondent 90; Age: 22; gender: female; settlement type: capital city; considered herself open-minded, and close to green ideology.)

It is noteworthy that most of the respondents who deemed this legislation to be people-centrist were under 25. Obviously, citizens under 25 do not form 99% or even the majority of the Hungarian population, but in-group solidarity might be an important element of this perception: young people under 25 might see this legislation as people-centrist, because their in-group is youth. On the other hand, this measure might have mitigated some

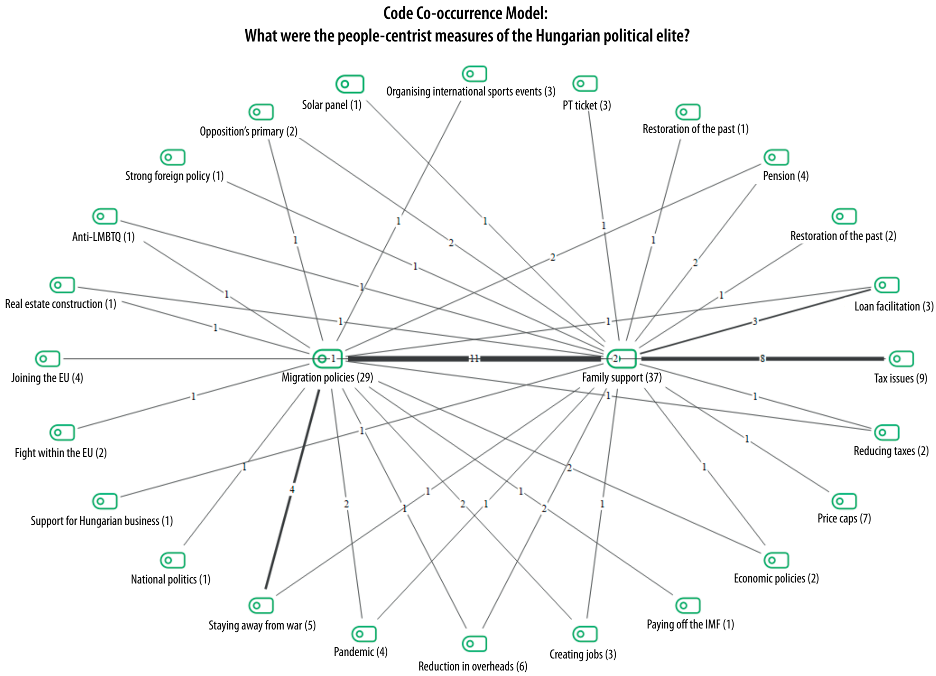

Figure 1:
Interconnections between themes in the answers reflecting on people-centrist measures

Note: The numbers in parentheses show how many interviewees addressed the theme. Edges between themes show 'connections' between themes. The thicker an edge is, the more the two themes appear in the same coding unit. Numbers on the edges show how frequently the themes co-occur.

Source: Compiled by the authors.

financial constraints for their families, which already completes their in-group with their family members. In that sense, exemption from income tax for under-25s touches not just the youth but indirectly their relatives by mitigating their financial burdens to some extent.

Finally, Figure 1 suggests that there is a notable connection between themes that revolve around family support, immigration policies and tax cuts. We would like to emphasise that this graph does not prove a significant statistical correlation in attitudes but suggests possible connections between citizens' perceptions. Therefore, these assumed connections might pave the way for quantitative studies, first and foremost, representative panel surveys and experiments. The co-occurrence of themes suggests that policies (tax cuts and family subsidies) and nativist communication can be deemed by the respondents to be political actions that are in the interests of the majority to mitigate cost-of-living crises and preserve cultural identities.

Discussion and conclusion

People-centrism is one of the essential, if not the most important, constituents of populism. Consequently, ample research has been aimed at understanding the way political agents construct an imagined community via communication, how people-centrism relates to disillusionment with the mainstream political elites, the effect that has on votes and what citizens think about the situation of their in-group (Pytlas, 2022; Theuwis, 2024). Hungary is a relevant case study because populism has surged there in terms of leadership style, communication and citizens' attitudes (Bene & Boda, 2021; Krekó, 2021; Lantos & Forgas, 2021). This paper is exploratively intended to fill an important gap in the literature by exploring citizens' perceptions of the political elite's people-centrist measures via semi-structured interviews. The results of the study highlight that legislation that mitigates the populist moment and improves the financial opportunities for larger groups – but not the entire population – can be considered by the respondents to be measures that were created in the people's interests. Many respondents' perceptions relied on the assumption that family subsidies were people-centrist. Even though these financial aids and tax cuts (in some cases, taxes were eliminated, for example, for mothers who raise four or more children) might have been installed to stop the Hungarian population from shrinking, they hardly cover 99% of the population, a criterion for the strictest populist logic. Nevertheless, respondents perceived that family support in Hungary, considered 'generous' at an international level (Dunai, 2024), is approximately 5% of the annual GDP. In this sense, the Hungarian Government could make many citizens susceptible to people-centrism. On the other hand, some respondents argued that some types of family subsidies, such as the Family Housing Allowance, have backfired because they have triggered hikes in real estate prices.

The other important theme in people-centrism touched the issue of immigration policies. Interestingly, respondents either answered this question briefly, not wanting to go into detail, or they expressed that they feared cultural shifts if the Hungarian Government were to be more indulgent on immigration. This is an important aspect to consider because people-centrism is not perceived from an anti-elitist perspective, but from a socio-cultural position (Ostiguy, 2017). In other words, respondents' perceptions suggest that the people are *united* in terms of cultural and traditional perspectives which resonates with in-group solidarity based on conservative values such as resistance to major change to the social order and the maintenance of society as it is (Everett, 2013; Jost et al., 2007; Zsolt et al., 2021). This finding is also supported by the 11th European Social Survey's results from 2023: public opinion in Hungary is significantly skewed toward viewing immigration as a threat rather than a benefit to cultural life (ESS ERIC, 2024). Additionally, the same survey's findings suggest that the majority of Hungarian respondents believe that immigrants make the country a worse place to live (ESS ERIC, 2024). Although many participants emphasised the importance of protecting borders, which resonates with the Hungarian Government's core agenda from 2015 (Tóth et al., 2019), they did not explicitly outline that the security of Hungarians was under severe threat. This could be due to their perceptions of the Hungarian Government having been 'successful' in resisting (illegal) immigration, or they may be acknowledging that Hungary is not the primary goal for immigrants to settle in, as it is probably a *transition* zone for them. Another explanation for the extremely short answers regarding concerns about immigration could be social desirability bias, which emerges 'in situations in which political attitudes or behaviours are perceived to conflict with social norms' (Maier et al., 2023, p. 597). Some respondents may have adjusted their answers based on perceived social expectations, particularly concerning sensitive topics such as immigration. The fact that some interviewees seemed to avoid explicitly stating their views on restrictive immigration policies suggests that social norms or political considerations may have influenced their responses.

Finally, mostly respondents under 25 perceived tax cuts for younger people as people-centrist. These findings raise questions about the role of in-group solidarity in perceptions of people-centrism. While such a tax exemption undeniably alleviates financial burdens for young workers, its impact on the general population is limited, given that young people under 25 do not constitute a demographic majority. This highlights the subjective nature of people-centrism and in-group solidarity, which can be contingent on one's social positioning, age, exposure to financial crisis and immediate economic interests.

Interestingly, the reduction in overhead costs, which is the legislation closest to the populist logic since it affects 99% of the population and is *against the elite* (e.g. large energy companies), was not among the top three themes (six respondents considered this legislation people-centrist) viewed as people-centrist legislation. However, some respondents emphasise in the first person that people could have felt that capping energy prices was 'undoubtedly' a people-centrist measure:

> One of the very emblematic measures here in Hungary is the reduction of overhead costs. [...] I think that this issue is beyond debate, that people here also thought that, yes, this is something that is happening for us, as if some kind of large-scale stand and a series of large-scale decisions were being taken, which started in politics and were not initiated from below.
> (Respondent 105, Age: 41, gender: male, settlement type: town in the countryside, considered himself mainly conservative but also liberal to some extent.)

The possible reasons for the rare emergence of the reduction in overheads can only be a matter of conjecture. One explanation could be that many respondents barely saved any money, while some paid considerably less for utility bills due to the reduction in overheads. Therefore, it would have been difficult for those respondents who saved small amounts to interpret this measure as 'people-centrist'. These savings might have been small for many respondents, while family subsidies were more spectacular (e.g. these funds could have been used for real estate purchase or renovation, for instance), thus the significance of reduction in overheads seemed to decrease.

Our analysis underscores that the people-centrism in Hungarian political measures is not a monolithic concept but rather a dynamic and contested perception. While many respondents acknowledged the material and symbolic benefits of policies related to family support, tax reductions and immigration, they also highlighted contradictions, unintended consequences and political motivations, such as vote maximisation they saw behind these measures. This complexity suggests that people-centrism functions both as a descriptive category – denoting policies perceived as beneficial for the majority – and as a practical-discursive strategy employed by political elites to legitimise and maintain their governance. In theoretical terms, our findings also suggest some interesting connections between respondents' perceptions and populism in the sense of the populist logic. Despite overhead cost reduction fitting the populist logic best, it was hardly mentioned by the respondents. However, family support, immigration and tax reductions were among the most frequent categories that were deemed 'people-centrist' by the interviewees. These categories can simultaneously be embedded into a narrative by which financial and cultural 'crises are prevented' (e.g. it mitigates the populist moment), while they *seem* to fulfil popular demands at the same time: mitigating housing crises, protecting cultural identity and reducing taxes for certain groups can be sufficient to redress some tensions within certain groups (Laclau, 2005a; Ostiguy, 2017). Given that popular demands can vary considerably (de Nadal, 2020), while people-centrist demands are time- and money-consuming and, in the case of education or health care, are not as attractive as constructing new homes, our conclusion is the following: while popular demands can be manifold and subjective, they are unlikely to cover 99% of the people, which is a requirement of the populist logic in the strictest sense. Therefore, popular demands and people-centrism are different concepts but may overlap in theory. In reality, when these concepts do overlap, as in the case of overhead costs reduction, they might remain unnoticed because they affect people to very different extents.

Limitations and future research directions

Although we analysed over one hundred semi-structured interviews, our study has several limitations. First, our sample is not representative, thus we cannot draw general conclusions based on the above scrutiny. Second, although thematic coding helped us interpret perceptions more deeply, it is impossible to avoid some degree of subjectivity. We also acknowledge that longitudinal data would support a more comprehensive analysis of citizens' perceptions. Additionally, some respondents may have pre-existing political attitudes that have shaped their perceptions of policies. Supporters of the political elite may have been more likely to describe policies as people-centrist, whereas critics may have been more inclined to highlight their flaws. In this case, we were unable to control for ideological predispositions that might have influenced perceptions. Finally, professional interviewers could have formulated questions in a way that respondents could have expressed their opinions more in detail.

It is important to note that when the interviews took place in November 2023, the political agenda was set primarily by Fidesz, with the strongest opposition party, the Democratic Coalition (DK), accounting for only around 10% among adults eligible to vote. However, in 2024, Hungary saw the rise of the largest oppositional force since the mid-2000s, the Tisza Party, led by Péter Magyar, which has already gained 42% support against Fidesz who have 36% among certain party voters according to an opinion poll published by the Publicus Research Institute in December 2024 (Vas, 2024). This means that the political landscape has evolved deeply since the interviews were taken, which might have shifted the interviewees' political opinions as well. A possible future research direction could analyse how this rising opposition party has shaped Hungarian voters' preferences, especially given that Tisza is right-wing party with an ideology on social and political issues similar to that of Fidesz.

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ARTICLE

The Basis and Practice of Crisis Communication for Critical Health Infrastructure in Selected Institutions of the Hungarian Health Sector

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Critical system elements in the healthcare system operate continuously under all circumstances, which has implications for emergency planning in ensuring operational safety for system elements, minimising the occurrence of any incidents, and ensuring continued operation regardless of extraordinary events. This research involved a questionnaire survey of designated critical infrastructure in the Hungarian

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health sector, a review of crisis planning documents, and an exploration of practical experience and methodologies. The research identified infocommunication tools, systems, channels and methods that can be used with a currently appropriate level of technology and security in alerting, notifying and equipping participants in health care operations during crises, as well as for communication and messaging activities between intervention forces in the care environment and society generally.

Keywords: critical infrastructure, healthcare sector, crisis communication, emergency situation, alerting and mobilisation technologies

Introduction

The European Union (EU), national governments and individual hospitals faced serious challenges during the coronavirus pandemic in managing the crisis and in applying the communication techniques and tactics that accompany the crisis management process.

The response to this global pandemic was typically improvisational because existing risk assessments had not predicted a pandemic of such enormous scale and impact, and there were no pre-prepared plans in place.

Hospitals generally use scenario-based planning, preparing disaster plans not only for global pandemics but also for hospital fires, lockdowns, mass casualty care and other situations.

Through crisis communication – an aspect of crisis management present in all phases and scenarios – our research examined the general level of regulation and preparedness of inpatient care institutions.

We propose a framework for crisis communication that can be applied uniformly in the healthcare sector, and could be raised to the level of European Union legislation with further scientific discussion and refinement. It is based on the legislative hierarchy, best practice as presented in international research, the crisis management practice at Semmelweis University (Hungary's largest medical institution), and the structural and content elements in disaster plans from inpatient care institutions in Hungary.

Literature review

Crises and their communication

There are a variety of concepts of disaster or crisis, for example, "a severe disruption in the functioning of a community or society, involving extensive human, material, economic, or environmental losses and impacts, surpassing the coping capacity of the affected community or society from its own resources" (UN, 2009); or disaster as "the breakdown of established symbolic frameworks that legitimize the existing socio-political order" ('t Hart, 1993). They pose a threat to the fundamental values or functioning of a system, or of life-support systems, and require urgent attention in conditions of profound uncertainty (Rosenthal et al., 2001). Hungarian regulations, whether defining states of emergency or crisis periods, or establishing the framework for a crisis situation in the healthcare sector, typically set out from the premise that the series of events in question cannot be effectively managed within the framework of 'peacetime' cooperation. A crisis then is a period during which the capabilities and resources available for crisis resolution within the local, temporal and peacetime operational frameworks are insufficient to cope with the extent, impacts and rapid progression of the crisis situation, leading to disproportionality among these factors.

There are multiple approaches to crisis management, one such, the three-phase approach, consists of pre-crisis, crisis and post-crisis periods. The pre-crisis stage requires proactivity inclined to take all possible measures to prevent a crisis occurring and is subdivided into detection, prevention and crisis preparedness phases. However, crises cannot always be prevented, and the members of organisations need to be prepared for them. That involves handling any early warning signal emitted of crisis, since preemptive measures can help to avoid crises (Lando, 2014). Two studies identified four stages to crisis management: mitigation and prevention, preparedness, response and recovery (Burnham, 2008; Haddow & Haddow, 2008); and another distinguishes five phases: signals/detection, preparedness/prevention, containment/mitigation, recovery and learning, with communication playing a crucial role in all five (Hutchins et al., 2008). Both in theory and in practice, the tendency is to view crisis management as a holistic process encompassing prevention, planning, acute response, recovery and learning (Comfort, 1988; Coombs, 1999; Curtin et al., 2005; Nudell & Antokol, 1988; Regester & Larkin, 2002).

The purpose of crisis communication is to inform the public of an event or issue in an emergency, its impacts, and how particular actions can influence the outcome and protect community members (Reynolds & Seeger, 2012). Another aspect of crisis communication is internal hospital communication, that is, messages within and between hospitals that are transmitted and received internally. This can also be termed internal communication (Liu et al., 2017). Another critical area is organisational communication, involving heightened and effective coordination of messages sent and received between hospitals and external stakeholders during a crisis. Thus crisis communication is a complex task present in every phase of crisis management, and involving all levels of leadership and intervention.

Legal framework for crisis management in the healthcare sector

Health systems are the responsibility of national authorities in each country, and various systems operate in different EU countries. The EU is responsible for coordinating and cooperating on health issues in certain areas, but the detailed rules and regulations governing hospital disaster plans are more a matter for the national authorities of the Member States.

The Civil Protection Mechanism is a key EU document designed to deal with crises, including healthcare crises. It allows EU countries to help each other in disaster situations, for example by providing medical assistance or mobilising other resources.

The European Centre for Disease Prevention and Control (ECDC) also plays a key role in managing healthcare crises, focusing on the prevention and control of epidemics and facilitating the exchange of information between EU Member States whose responsibility is to plan health systems, develop preparedness plans and implement crisis management measures, particularly when dealing with crisis situations, with cooperation supported at EU level. While hospital emergency plans are not defined at Community level, as mentioned above, there is a preference for crisis management tasks related to the safety activities of critical infrastructure operators to be regulated at Community level.

The geopolitical and globalisation changes that took place up to the 1990s led to extremely rapid technological development and increased societal dependence on infrastructure systems. The proper functioning of these systems is essential to the public, as well as to the economic, commercial, financial, governmental and administrative sectors.

In the 2000s, terrorist attacks in the EU and the USA prompted lawmakers to take action to protect critical infrastructure. The Green Paper presented in 2007 defined the following eleven critical infrastructure areas: energy, information and communication technologies; water supply; food safety; healthcare; the financial system; public safety and the justice system; the administrative system; transportation (road, rail, air, inland waterway, maritime and aviation); chemical and nuclear industries; space; and research. Following a proposal, in 2008 the European Council formulated the concept of critical infrastructure and its classification criteria in Directive 2008/114/EC on 8 December 2008 (hereinafter: The Directive). In this context, the Hungarian Government defined the ministries and authorities responsible for the various sectors and the national division of those sectors in Government Decision 2080/2008 (VI. 30.) on the National Program for Critical Infrastructure Protection. Government Decision 1249/2010 (XI. 19.) on government tasks to be carried out to comply with The Directive on the identification and designation of European critical infrastructures and the assessment of the need to improve their protection (hereinafter: Government Decision) opened a new chapter in the regulation of critical infrastructure protection in Hungary.

Current legal framework for crisis management in the Hungarian healthcare sector

To ensure domestic compliance, Act CLXVI of 2012 on the Identification, Designation, and Protection of Critical Systems and Facilities was passed and also a government decree for implementation (Government Decree 65/2013). Act CLIV of 1997 on Healthcare then laid down the basic rules for emergency health care in Hungary in a separate chapter, defining the concept of a healthcare crisis situation, when and who can declare it, listing in detail the organisational and planning tasks to be performed in a crisis situation.

The content requirements for healthcare crisis management plans in healthcare institutions, as well as amendments to certain ministerial decrees related to healthcare, are defined in Government Decree 43/2014 (VIII. 19.) of the Ministry of Human Capacities (hereinafter: Decree). The Decree establishes the rules for central approval of these plans, detailing the planning process and requiring the preparation of sub-plans for various scenarios and background activities in addition to the basic plan.

This Healthcare Crisis Management Plan (HCP) essentially comprises a basic plan and fourteen sub-plans. To facilitate structure, understanding and obviously application, the plans can be grouped into four categories:
- Basic Information and Readiness Access
- Response to an extraordinary event affecting the organisation
- Response to an extraordinary event occurring elsewhere, extending services
- Operation of supporting processes

The implementation and application of the plans can occur separately or simultaneously in various permutations, depending on the nature of the ongoing event (Kátai-Urbán et al., 2019).

The Regulation requires inpatient care facilities to prepare and annually review the following sub-plans:
- Basic plan
- Alert and deployment plan
- Evacuation plan
- Discharge plan
- Isolation plan
- Emergency medical shelter deployment plan
- Emergency hospital deployment plan
- Plan for the provision of additional tasks in peacetime and in the special period of law and order
- Plan for the maintenance of care in the event of damage to the institution or in circumstances that prevent its operation
- Medical and other material insurance plan
- Transportation plan
- Food plan
- Communication plan
- Plan for the provision of tasks related to the national emergency plan
- Plan for the implementation of the International Health Regulations

From the crisis communication perspective, the Alert and Deployment Plan, and the Communication Plan are the most important, which the present research analysis details.

Our hypotheses are as follows:

H1. In a healthcare crisis situation, alerting and mobilising healthcare workers in an extensive emergency may not be feasible and/or may not occur in a timely manner with the planned resources.

H2. The Communication Plan prepared based on the legal regulations – as currently applied – is unsuited to maintaining effective communication within institutions, with intervention forces, or towards the public during crisis healthcare activities.

Research methodology

Our research examined the healthcare emergency plans from two medical universities (institutions with the highest level of progressivity in multiple fields, each with a national service area and a combined total of approximately 60 independent hospital facilities), a national healthcare institute (an institution with the highest level of progressivity in one field and seven such institutes nationwide), two controlling county-level institutions (representing 19 counties and the capital city as administrative units, each overseeing multiple locations and hospitals to ensure inpatient care for a given county), and a central hospital in the capital city (meeting inpatient care needs for the Capital and Pest County, primarily based on four centrally located hospitals with multiple branches operating within the administrative jurisdiction of the controlling county).

The practice varies among institutions as to whether they prepare independent HCPs for each site based on the peacetime organisational structure, or rather a central plan for each site and organisation with attachments and chapters. Consequently, we conducted a comparison of 19 sets of plans for the institutions mentioned above, requesting plans in a completely anonymised form for reasons related to national security and data protection. Thus, compliance regarding personnel and contact information was not examined.

Analysis of the Decree

Excerpt from the Decree:

1. Alerting and Deployment Plan
    - 1.1. The purpose of the Alerting and Deployment Plan is to prepare for the deployment of the necessary personnel in case of unexpected tasks.
    - 1.2. The Alerting and Deployment Plan is prepared in two versions:
        - 1.2.1. For the main operating hours of the day, to deploy personnel who are not on duty;
        - 1.2.2. For periods beyond that (including holidays and public holidays), for the partial or complete deployment of the staff.
    - 1.3. Both versions include:
        - 1.3.1. Necessary address data for alerting the narrower personnel – leadership or those representing special areas of expertise,
        - 1.3.2. The name and address list of the entire staff, grouped by organizational unit and profession (in the case of a large healthcare provider or one with multiple locations, it is advisable to plan for alerting by organizational unit or site separately, at the same time),
        - 1.3.3. Multiple alternative options for alerting, taking into account the potential failure of individual communication systems in case of a disaster,
        - 1.3.4. Alternative notification possibilities (besides telephone, mobile phone, notification by car, local electronic media),
        - 1.3.5. Designation of persons responsible for executing the alerting, deployment (notification), defining their tasks,

1.3.6. The sequence of notification, including actions to be taken in case of a break or danger of a break in the alerting chain,
1.3.7. Name and address list of the leadership to be informed – in case of their unavailability, the names and addresses of those replacing them,
1.3.8. List of names and addresses of employees designated by the designated healthcare provider for deployment to the installed healthcare institution, medical assistance sites, or other designated tasks,
1.3.9. The standard time for the execution of the alert, as well as the arrival of the deployed personnel, and
1.3.10. The person responsible for receiving arrivals and assigning their tasks.
1.4. Related plans: for evacuation by car, the Isolation Plan, and for delivery, the Transportation Plan.

12. Communication Plan
12.1. The Communication Plan includes:
12.1.1. Tasks related to informing patients during evacuation, relocation, isolation, and damage to the institution,
12.1.2. Informing patients about the temporary restriction of patient rights,
12.1.3. The method of continuous information for employees, temporarily assigned personnel, and volunteer helpers about the current situation and expected tasks,
12.1.4. The person responsible for maintaining contact with the county government office, ambulance service, territorial and local branches of the disaster management, institutions in the area or region, and the media,
12.1.5. Development of simplified documentation and patient records,
12.1.6. Method and person responsible for informing relatives about patient admission, transfer, and death (Government Decree 43/2014).

In Germany, similarly to Hungary the precise process of designating critical infrastructure in the healthcare sector is based on laws and guidelines. The Federal Office for Information Security, the *Bundesamt für Sicherheit in der Informationstechnik* (BSI) is responsible for implementing the *Kritische Infrastrukturen-Verordnung* Regulation (KRITIS) in the healthcare sector. The office defines the process, criteria and considerations for designating critical healthcare infrastructure. Furthermore, it mandates the development and implementation of security measures.

a) This law regulates the security of information technology systems and includes regular reviews and updates of measures and requirements related to the protection of healthcare infrastructure.
b) The BSI KRITIS Regulation governs the process of designating healthcare critical infrastructure, outlining the sectors considered critical infrastructure, and establishing the requirements for security measures to protect them.
c) Professional Guidelines and Recommendations: Organisations within the healthcare sector and guidelines issued by authorities provide additional specific requirements regarding the designation of critical infrastructure (necessary security measures, monitoring, and assessment of processes and managing vulnerabilities).

In contrast to Hungary, crisis planning and management in Germany are not regulated centrally but delegated instead to the *Land* (state) level. As a result, individual states autonomously establish the mandatory rules and provisions for critical infrastructure.

Alert and deployment

In the context of critical healthcare infrastructure, alert and deployment mean ensuring that sufficient human resources – doctors, nurses, maintenance and support staff, etc. – are available as rapidly as possible to manage any extraordinary event. In order to achieve that, it is necessary to alert the organisation's employees and, if necessary, to deploy an appropriate number of off-duty workers. There are various communication channels to alert and deploy the workforce needed.

Alerting and deployment of on-duty and off-duty staff

Possible communication channels include face-to-face conversations, phone calls, group meetings, mass media (television, personalised mass media such as reverse emergency call services, and interactive social media platforms such as Twitter, etc.) (Bradley et al., 2014). The abovementioned communication channels are reinforced by the Crisis and Emergency Risk Communication issued in 2012 (Reynolds & Seeger, 2012). Traditional top-down crisis management, including communication, may only prove successful and effective to limited extent during a crisis (Boin & McConnell, 2007).

FACT24 is a crisis management and notification application and service that can be downloaded onto mobile phones to alert and deploy employees. In a crisis, the system provides for rapid response and overview capability, facilitating activation, modification and real-time tracking of alert processes. The system operates continuously worldwide, supporting crisis managers in alerting and mobilising emergency services, crisis management teams and affected individuals. The application offers services such as on-call services (targeted on-call team alerts), IT alerts (direct connection to servers and technical infrastructure), protection of isolated employees, mass alerting functions, building monitoring (reporting technical issues and malfunctions) and various alert features (FACT24, 2023).

The advantage of the above application and service is that it allows for employee record-keeping and real-time alerting within a single application. Furthermore, the feedback from alerted employees helps in planning the scale of human resources needed for crisis management.

If internet-based electronic communication tools become unusable due to network damage or shutdown, then crisis communication needs to be conducted through alternative communication channels. Such channels could include a TV public information broadcast, radio announcements and traditional methods of local communication (town crier, bulletin board and advertising column). Additionally, law enforcement agencies and individuals can use loudspeaker devices capable of live speech broadcast, as well as handheld loudspeaker devices. These measures ensure redundancy in communication channels (Mógor, 2011).

Performing and monitoring tasks related to alerting and deployment

Crisis communication involves adhering to the alert system and levels, as well as assigning tasks to incoming colleagues after deployment, and monitoring their progress. The examined studies indicate the application of emergency codes in the healthcare sector, with the aim of preventing confusion and enhancing rapid response for emergency patients requiring cardiac and pulmonary resuscitation, or for handling extraordinary events. Emergency codes alert relevant healthcare staff of a critical situation within the hospital without causing fear among patients and visitors. Emergency codes are assigned specific colours, making their reports easily identifiable.

Table 1:
Comparison of emergency colour codes

Emergency colour code	**The meaning of the code**		
	Riyadh City Hospital[1]	**British Columbia**[2]	**California**[3]
Red	Fire/internal disaster	Fire	Fire
Blue	Cardiac arrest/respiratory failure	Heart attack	Adult medical emergency
	Adult medical emergency		
	Pediatric emergency		
Green	Delete the code	Evacuation	Missing high-risk patient
	Evacuation		Triage/Emergency alert; Limited activation of selected key personnel for potential incident
	Overcrowding		Activation of Emergency Operations Plan for Internal Incident
	Pediatric emergency		Triage/Activation of External Emergency Operations Plan for External Event
	Adult medical emergency		
	Hazardous/Chemical spill		
	Cardiac arrest/ Pediatric emergency		
Pink	Infant/Child abduction	Pediatric and/or Obstetric case	Child abduction

1 Ashworth et al., 2015.
2 British Columbia Ministry of Health Services, s. a.
3 Dauksewicz, 2019.

Emergency colour code	The meaning of the code		
	Riyadh City Hospital[1]	British Columbia[2]	California[3]
Yellow	Sandstorm/Severe weather External disaster Oxygen depletion Utilities failure Hazardous/Chemical spill Internal disaster Bomb threat Polytrauma Traffic accident in the emergency department	Missing patient	Bomb threat
Black	Bomb threat External disaster Internal disaster Aggressive individual/security needed Polytrauma Mass casualties Death	Bomb threat	–
Orange	Hazardous/Chemical spill Delete the code External disaster Bomb threat Oxygen depletion Internal disaster Adult medical emergency	–	Hazardous/Chemical spill
Amber	External disaster	Missing or abducted infant or child	–
Brown	Hazardous/Chemical spill Aggressive individual/security needed Explosion Sandstorm/Severe weather	Hazardous spill	
Grey	Utilities failure Aggressive individual/security needed Hazardous/Chemical spill Bomb threat Internal disaster	System failure	Aggressive individual
Silver	Aggressive individual/security needed	–	Armed individual and/or active shooter and/or hostage situation

<table>
<tr><th rowspan="2">Emergency colour code</th><th colspan="3">The meaning of the code</th></tr>
<tr><th>Riyadh City Hospital[1]</th><th>British Columbia[2]</th><th>California[3]</th></tr>
<tr><td rowspan="4">White</td><td>Bomb threat</td><td rowspan="4">Aggression</td><td rowspan="4">Pediatric emergency care</td></tr>
<tr><td>Aggressive individual/security needed</td></tr>
<tr><td>Evacuation</td></tr>
<tr><td>Delete the code</td></tr>
<tr><td rowspan="2">Lilac</td><td>Aggressive individual/security needed</td><td rowspan="2">–</td><td rowspan="2">Child abduction</td></tr>
<tr><td>Missing child/adult</td></tr>
<tr><td rowspan="2">Purple</td><td>Aggressive individual/security needed</td><td rowspan="2">–</td><td rowspan="2">–</td></tr>
<tr><td>Oxygen depletion</td></tr>
</table>

Source: Compiled by the authors.

Table 1 summarises the emergency colour codes used by various healthcare organisations, and it can be observed that there are codes with similar or common meanings, such as the red code indicating a fire and the blue code indicating a cardiac arrest. However, most of the codes have various meanings. A study conducted by Hyo-Jin Lee and Ogcheol Lee suggests that standardised emergency codes, including colours and simple wording, minimise confusion by aiding hospital staff in recognition and prompt response (Lee & Lee, 2018).

Another possible solution for crisis communication is the creation and distribution of *action cards* for employees, prepared for a specific emergency and tailored to each employee's level, indicating who needs to be notified, the tasks to be performed, and serving to track all these activities (Mackway-Jones & Carley, 2019). Action cards represent a list of measures that a responsible party in a critical process must take during an emergency or disaster to ensure the continuity of operations (Camacho et al., 2019).

During a professional study trip within the German healthcare system, we could gain insight into the operations of the Institute of Emergency Medical Science and Medical Management. This institute, the first of its kind in Germany, was founded in 2002 to ensure an appropriate response to healthcare emergencies. The main tasks of the institute include the development of emergency, evacuation, alerting and deployment plans, as well as the establishment of emergency crisis teams, communication, training and practice exercises. For the latter, they perform full-scale, personnel and external drills, and conduct practice alerts twice a year. The institute also has a simulation centre, where participants' activities can be analysed with special equipment. The institute has developed scenario-based plans for various crisis situations, outlining primary and secondary measures in the primary alert process, situation assessment and a secondary alert process. The tasks are illustrated to workers in the respective organisational unit using various action cards.

Action cards can be used by the employee as a team leader during the event when the necessary measures are itemised. The employee marks completion of each action by ticking a box. The card first specifies the use of distinguishing vests, followed by filling out the reporting form. Following the event assessment, the alert level is determined based on the opinions of the operational leader and on-call medical personnel. The alert levels are influenced by the number of casualties, available staff and the time of the event, which the employee also marks. The card defines eight levels of alert, and depending on the severity of the level, the healthcare personnel serving at the institution at that time are mobilised at the lower level alerts, while at more severe alert levels off-duty personnel and functional units are mobilised. The alert and deployment process takes place through their own internal alert system. The card includes a table listing the callable and deployable staff with phone numbers and designated command points. After completing tasks, the employee can review the steps taken at the command point, and then the action card determines the immediate care of the patient after classifying injuries, specifying accurate information, determining and documenting personal data.

Crisis communication

A crucial concept in crisis communication is the actual designation of the crisis and the initiation of plan implementation. It is important to distinguish between the two terms:

- Classification of the situation
  - Act CLIV of 1997 on Healthcare clearly defines the concept of a healthcare crisis situation, indicating that in the event of its declaration, HCP are to be applied.
- Ordering the implementation of the plan

Justification for the application of multiple sub-plans exists not only during a declared healthcare crisis situation, but also in other situations, for example, for a facility a fire evacuation, or a local chemical accident when isolation may be necessary. There are numerous scenarios that do not require government-mandated, coordinated defence activities but the implementation of certain sub-plans is practical from the perspective of institutional crisis management.

Fundamentals of internal communication within an institution

The foundation of crisis communication is internal communication within the institution, with the aim of informing and updating employees and patients about the extraordinary event. This also plays a crucial role in coordinating the necessary measures for crisis management, as found in several studies. An organisation should communicate with both its internal and external stakeholders not only during a crisis but also before, during and after negative events. The goal is to implement strategies aimed at minimising damage to the organisation's image (Lando, 2014). Uncertainty and ambiguity are inherent aspects of crises. Consequently, those involved in crisis communication may make statements indicating that not all facts are available yet or that the understanding of the situation is unclear (Dauksewicz, 2018). According to a study conducted by Petra Dickmann and colleagues, half of the hospitals examined differentiated between risk communication and daily PR activities. They had crisis communication plans to regulate this distinction (Dickmann et al., 2014). A study analysing the crisis communication plans of Ontario hospitals revealed the increasing use of social media for crisis communication. It also highlighted the necessity for integration between crisis communication and operational crisis management (Dobosz, 2020).

Communication with partner organisations

Communication and collaboration with partner organisations, such as government offices, disaster management, law enforcement and emergency services are integral parts of crisis communication. Its significance lies in alerting authorities and determining the extent of intervention, effectively contributing to crisis management.

During the first wave of the global coronavirus pandemic, the practical experiences of communication with partner organisations and coordinating authorities in Hungary are revealed in the following excerpt from a study:

> The management of defence and thus the operation of inpatient care facilities (beyond daily operations) was carried out based on written instructions from the Operational Staff, the Ministry of Human Resources (as the professional directing authority), the Ministry of Innovation and Technology (as the maintainer in the case of university clinics), the National Hospital Command, and the National Public Health Centre. Accordingly, the reporting obligation was defined in these directions, where it occurred that a healthcare institution had to submit a daily report, consisting of the same content but meeting different formal requirements, in a table with several hundred rows, regarding the available and utilised resources (personnel, equipment, bed capacity). This not only imposed a significant administrative burden but could also lead to data distortion due to overload and the possibility of institutional advocacy (Kátai-Urbán et al., 2021).

In Hungary, there are various examples of supervisory communication, including information gathering, reporting and task assignment. Currently, these systems do not extend to the access of certain institutions. The Ministry of the Interior operates the Civil Emergency Information System (PVIR) to ensure Hungary's security in preparation for extraordinary events, disasters and emergencies, as well as supporting the mitigation and elimination of their impact and restoring the original situation. Through this information system, not only static informative data but also dynamic information can be published on a unified interface for organisations involved in disaster and emergency management (Polgári Veszélyhelyzeti Információs Rendszer, s. a.). In addition to PVIR, the Marathon Terra info-communication application operates for defence and security administration purposes. It is an independent, closed, reliable information system capable of data traffic without file type restrictions. The system is designed with essentially the same preparatory goals as the PVIR system mentioned above. The system currently includes automatic alerts from the National Meteorological Service and event maps from the National Association of Radio Emergency and Infocommunication (RSOE). Moreover, the application collaborates with Google Maps (Marathon TERRA, s. a.).

Contacting authorities and information exchanges are significantly facilitated by the Unified Digital Radio Telecommunication System (hereinafter: EDR), which has established data transmission capabilities nationally in Hungary, and provides an info-communication channel among standby services, intervention forces and organisations. The foundations of this system are laid down in Government Decree 109/2007 (V. 15.) on the Unified Digital Radio Telecommunication System. Government Decree 346/2010 (XII. 28.) on governmental networks defines the scope of organisations entitled and obliged to use the system.

Various emergency services are equipped with the current EDR to efficiently carry out their operational activities. EDR is a communication system based on the Trans-European Trunked Radio (TETRA) network with nationwide coverage that meets Schengen criteria. The system provides continuous accessibility for the communication of emergency services through advanced data transfer services and information security solutions. In addition to emergency services, civilian groups can also join the service with permission from the Ministry of the Interior. Users of the system can conduct secure communication through virtual private networks, ensuring separate and secure communication without interference (Hanák, 2008; Kardos, 2021; Kuris, 2010).

Informing the population and media

During the Covid–19 global pandemic, people turned to social media more frequently than usual to keep informed on the outbreak and health-related information, relying on online sources for news and updates (de Calheiros Velozo & Stauder, 2018; Li et al., 2018). Crisis management in Cameroon during the Covid–19 pandemic involved community information dissemination and health education related to the coronavirus disease through various platforms and channels including television, radio, print media, flyers, posters, government websites, healthcare facilities, volunteers, community health workers and social media (Bang, 2020). The United Arab Emirates provided information related to the Covid–19 situation, including daily statistics, case numbers, death toll, the number of tests conducted, total recoveries and up-to-date health regulations on the Ministry of Health and Prevention website. Local health authorities such as the Ministry of Health in Abu Dhabi, the Abu Dhabi Health Services Company (SEHA), the Dubai Health Authority and the Dubai Health Authority's website also disseminated information. Additionally, these authorities utilised social media platforms, including Twitter and Instagram, as well as official news channels and traditional media to extend messaging and broaden the dissemination of information (Zaher et al., 2021).

Patient identification and information to relatives

Accurate and clear identification of patients and injured individuals entering healthcare is essential, contributing to the factual and real-time information provided to relatives.

During extraordinary events and the associated crisis communication in the healthcare sector, quick and effective patient identification is crucial. There are various options, such as identifying patients with wristbands, which is an internationally accepted practice; however, organisational, financial and human factors can lead to errors or undesirable events (Tase et al., 2013). In case of mass casualty care, however, wristbands are practical and effective. Numbered medical record cards and patient wristbands can be stored at the entrance, allowing for immediate distribution to the injured. This system enables easy tracking of the arrival order of patients and the total number of injuries treated. The official patient identification and hospital registration are done later to avoid hindering the orderly processing of patient care due to administrative reasons (Avidan et al., 2007).

There are additional options for patient identification, such as RFID technology and 1D codes such as barcodes, as well as 2D codes such as QR codes. The use of QR codes in particular is currently the optimal choice, as QR code-based label technology, combined with a mobile phone as a code reader and decoder, appears to be the most practical and cost-effective alternative for automatic patient identification and quick access to remote health records (García-Betances & Huerta, 2012; Riplinger et al., 2020).

Patients' relatives can be informed in person and over the phone; however, in an extraordinary situation, these channels may be inefficient. As an alternative solution, semi-automatic telephone exchanges can assist in conveying information. A prime example of this is the information system introduced at Hungary's largest healthcare facility during the pandemic, which allowed the relatives of Covid–19 inpatients to receive information on practical aspects of Covid care at the clinics. This included details about the treatment of Covid patients in the facility, options for sending packages and authorised visitation opportunities. Information was provided in an organised manner via a menu, offering guidance 24/7. Answers to frequently asked questions were also published in written form on the organisation's website; and dispatchers were also available for direct contact over the phone within weekday business hours. Family members could request brief updates on the condition of a specific patient, and information over the phone regarding the medical documentation could be provided to an individual designated by the patient. The establishment of the information line was necessary to ensure that family members could reliably access information about the most important practical issues, allowing doctors and nurses to focus all their attention on patient care (Semmelweis Hírek, 2020).

Comparison of the analysed crisis communication plans

Comparison of the Alert and Deployment Plans reveals that, with two exceptions, their structure consistently follows the requirements listed in the Regulation, treating the regulatory listing as chapters. In one case, the plan solely provides an organisational chart-like description of the alarm chain, while in another case, details regarding the reception of incoming individuals are missing from the plan. Thus, the comparison reveals that, with one exception, each plan logically outlines first how the healthcare crisis – and thus the application of the plans – will be communicated, through which alert channel, and who is authorised to order it. Only in one plan did we observe that beyond this qualified period, the leader of the institution is authorised to order the application of the plans.

The Decree stipulates how the institutional authority should carry out the planning system's annual maintenance review. After the pandemic, Hungary's system of defence administration and government-level control underwent a transformation through Act XCIII of 2021, which coordinates defence and security activities, modifying several defence-related regulations, including those related to healthcare crisis situations. We did not find a single example of these changes having been incorporated into the plans we received and processed in the fall of 2023, although clear and verifiable classification of the healthcare crisis situation and the order for enactment of the plans as the first elements of the alert chain are crucial.

The scope and communication channels for those authorised to order enactment under the previous regulations were specified, indicating the channels through which orders could no longer be received. However, in one plan there was no mention of the obligation on the recipient to verify the authenticity of the order. Currently, the classification of a healthcare emergency situation can only be determined by the government by decree, with the official communication channel being its publication in the Hungarian Gazette. However, none of the plans mention this.

In the next step, the alert chain hierarchy within the institution is described for each plan, which, with one exception, was prepared in accordance with the Regulation, both for working hours and in overtime, with the separation of the two periods within the chapters.

The Regulation states the plan must include the method of alerting with the elaboration of several alternatives, taking into account the potential failure of communication systems in a disaster.

In one plan, only phone alerts are specified with no alternative provided in case of failure. In sixteen cases, the following channels are listed:

- Orally
  - in person, through a delegate, or a messenger
  - using a telephone or mobile phone
  - through a public address system
  - in collaboration with news service providers (TV, radio)

In fifteen of these cases, the following channels are supplemented:

- In writing
  - telegram
  - circular letter
  - short message service (SMS)
  - e-mail
  - call
  - use of a mandate letter

In two cases, only the actors in the alert chain and not the communication channels are specified. None of the plans distinguish the internal alert channels or the alert channels for the staff to be mobilised, apart from, for example, alert via the public address system and circulars, the inference being that these are to be applied within the institution. Overall, institutions generally plan for three communication channels:

- connected to the telephone network
- connected to internet access
- interpersonal

The redundancies of various alternative solutions are generally determined within the same communication system. For example: phone–SMS, e-mail–circular, letter–call. In case of telecommunication service providers, the access and methodology had not been elaborated in any of the plans.

With regard to the alarm and arrival standard times outlined in the plans, it is noteworthy that beyond listing the communication systems to be used as mentioned above, none of the plans specifies a concrete sequence, the number of attempts, or any criteria for the person initiating the alarm to follow in case of malfunctions of certain systems, unavailability of the alerted personnel, or lack of confirmation. This can significantly affect the desired standard time for achieving readiness.

For internal alarms, none of the plans includes a code system, predetermined text, or guidance for those initiating the alarm. While for mobilisation, sixteen plans contain pre-written text and prescribe verification of authenticity for mobilisation through recall or presentation of a mandate letter.

In seventeen cases, evacuation by a designated vehicle was included as an alternative, as highlighted in the Regulation. In fifteen cases, the involvement of authorities (Police) is mentioned, as well as the utilisation of broadcasting based on the residence of the mobilised personnel. However, there is no description of individual data or methodology regarding the latter.

During the evacuation by designated vehicles, the institution's vehicles and drivers are always considered primary. However, there were no references to the Regulation, which, in this case, requires the simultaneous activation of the transportation plan and the detailed plan. As a second step, the use of the resident staff and vehicles is mentioned without further details. In this case, the lack of further elaboration raises questions about the sustainability of that institution's operational capability. As a third step, ordering taxis is mentioned. Institutions generally have framework agreements with taxi companies. This method is practical because it allows for delivery, especially during non-working hours, as taxi companies have larger logistic capacity. In the event of potential or actual disruption in the alert chain, solutions are outlined in fifteen plans, with replacements designated for each position.

All the plans assume that employees, especially those with responsibilities outlined in the alert and activation plans, are familiar with the plan and have access to it and its attachments, including activation lists. However, none of the plans explicitly mentions their specific location or how to access this information.

Fifteen plans include responsibilities and general tasks related to receiving arrivals, such as studying documents, forming workgroups, clarifying headcounts, providing briefings, establishing contacts, etc.; two plans omit this chapter altogether; one plan only generally prescribes reporting to the workplace leader; and one plan lists in detail the tasks of key figures and positions (from the leader to the porter).

Communication plan

With three exceptions, the structure of the plans in each case follows the regulations listed in the Decree, treating the regulatory listing as a chapter. In one, the plan includes only the contact information of the contacts, in another case, the plan lacks the designation of responsibility for contacts with the county government office, ambulance service, territorial and local disaster management organisations, the institutions of the area and region, and with the media. In yet another case, the development of simplified documentation and patient records is missing.

In sixteen cases, we saw that in the introduction, external communication (towards the media, patients, relatives, authorities) and internal communication (towards patients and staff) had been differentiated when defining the purpose of the plan. With one exception, all include tasks related to informing patients in case of evacuation, relocation, lockdown and damage to the institution. In one case, the plan refers the tasks to be executed at the discretion of the current CEO without further details. In one case, the only task mentioned is reporting to the maintainer. Fifteen plans define general tasks such as:

- presenting the danger
- introducing basic safety rules
- temporary restriction of patient rights
- describing the actions
- providing reassurance

Additionally, while there are brief descriptions of specific scenarios, with a common emphasis on preventing panic, these descriptions lack methodological guidance, any mention of available tools and techniques, or additional external and internal communication tasks (such as communication with collaborating authorities, or societal communication on the institution's website). Each of these plans includes that activation should be in line with the plan for the specific scenario. In one plan short headline-based task descriptions were prepared separately for each of the four scenarios, taking into account key intervention and control roles. Here, in addition to the general tasks listed above, the main guiding principle is to determine with whom the person in a given position communicates (holding superiors/meetings), both downward and upward, thus establishing the order of task assignment and reporting.

Fifteen plans specify that informing patients of temporary restrictions on patient rights can be done primarily through oral communication, posters, forms, or circulars (distributed to each department). The plans also include the basic legal constraints regarding these restrictions. In one, the head of the Communication and PR department is specifically designated to prepare informational material, and the deputy medical director of the respective site takes action to ensure that the departments acquaint the patients concerned with the pre-formulated informational material through reading or handing out printed copies. This is also supported by international examples; communication professionals typically add value to their organisations by building reputation and engaging with stakeholders. Integration ensures that communication professionals provide value by assisting management in achieving broader goals, especially in crisis situations (Dobosz, 2020).

In one plan, the heads of the departments are tasked with informing the patients in this regard, and the CEO is responsible for checking this; however, the creation of the information material is not mentioned. In addition to CEO directives and verbal departmental communication, in only one other case it is mentioned that assistance in developing the temporary restriction of patient rights can be sought from the institution's legal expert. The establishment of an information service for ensuring external communication was exclusively mentioned in this case.

The continuous appraisal of employees, seconded personnel and volunteer helpers about developing situation and expected tasks is generally prescribed in all plans (verbal and/or written communication is involved in some cases, occasionally linked to tasks related to briefing incoming personnel in the Alert and Deployment Plan, but without further details.

The appointment of the contact person responsible for communication with the county government office, ambulance service, territorial and local branches of disaster management, regional institutions and the media is present in all cases but one; however, in one case, not all the bodies listed in the regulation are named. In most cases, legal compliance is ensured by appointing a contact person from the institution. In a single case, only the contact person and their contact details on the cooperating side are designated, along with the communication channel (telephone).

The patient identification process is essential in healthcare institutions, even during extraordinary events, to ensure the safety and quality of patient care. Three plans lack instructions for developing simplified documentation and patient records. Fifteen plans mandate the routine work of the patient admission office during working hours without specifying the details of simplified documentation. Outside working hours, record-keeping is delegated to hospital departments through a simplified list, without specifying the content. In only one case, the precise content of simplified documentation is provided, including:

- patient's name, place, and date of birth
- social security number (TAJ)
- mother's name
- address
- name and address of the nearest relative
- arrival time: year, month, day, hour
- destination or transfer location
- departure time: year, month, day, hour

In this case, the responsibility for preparation is assigned to the nursing leader; however, there is no indication of the format, collection location, or assignment to the patient for the documentation. In three cases, only the person responsible for informing the relatives has been designated without further task details. In fifteen cases, it has been further specified that the person responsible for the information should be published on the institution's website along with their contact information for the respective hospital department. In summary, of the nineteen sets of plans received:

- One institution does not meet the legal requirements at all; it only includes the directions and responsible parties for crisis communication without specific task assignments.

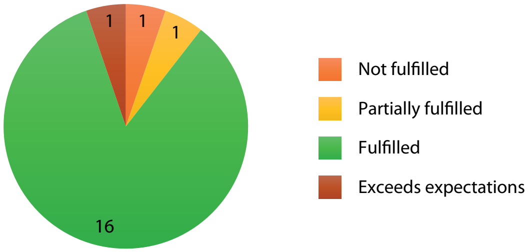

Figure 1:
Compliance with regulations in the examined plans
Source: Compiled by the authors.

- One institution deviates from the legal structure but broadly includes its fundamental criteria.
- For sixteen institutions, it is evident that, due to the managerial structure and professional network, they were generally prepared similarly, precisely meeting the legal criteria without excessive expansion, and, in fact, only minimally tailored to the specific institution.
- In one plan, there is a reflection of institutional conditions, a comprehensive adherence to legal frameworks, endeavouring towards precise task delineation.

In general, it can be stated that precise and detailed planning for methodology, technical tools, channels and reasonable redundancy in crisis communication is not characteristic of any of the cases examined. Furthermore, each plan package should be interpreted as a central plan, constituting several hundred pages for the entire planning system. Accordingly, disclosure, training and availability in the respective positions of these plans are significantly limited, questioning the rationality of their application. The legislation does not provide specific guidance on this latter issue.

Conclusions

Based on our research, we propose handling crisis communication in Hungary according to the legal framework with the divisions and focuses listed below. As a first step, determining the activation stages is essential (defining crisis situations, and identifying those responsible and authorised to order activation).

Staffing communication

Alert, signalling

This includes informing hospital staff of the emergency event with the appropriate content, providing them with the necessary information to immediately begin their tasks while avoiding panic among patients and visitors. In this regard, it is necessary to establish the following regulations and conditions:

- tactical aspects, such as
  - pre-defined alarm chain (responsibilities, sequence)
  - the content of the alert, for which a recommended code system should be applied (comparing the practices of multiple institutions, the code system can be standardised)
- Technical aspects, such as
  - automatic sound equipment
  - displays
  - mobile phone applications
  - telecommunications equipment
  - SMS, push messages
  - the sequence of redundant elements
  - preferably, the use of different channels in case of failures

Deployment

This refers to the mobilisation and placement of the personnel on leave or vacation to their duty station, following the guidelines outlined below:

- Planning the shift work schedule, the rest periods of the personnel in advance for multiple scenarios, determining the timing of deployment.
- The communication channels and content of the deployment as per the provisions in the alert.
- Possible additional personal communication channels for deployment include
  - courier services
  - taxi companies
  - involvement of local authorities
  - predetermined route plans based on the residential address for the planned deployment of resources is recommended in all these cases
- Confirmation of receiving the deployment to ensure predictability in personnel.
- Ensuring the entry of the deployed personnel, taking into account the incidental damages arising from the nature of the extraordinary event, as well as the complicating circumstances resulting from its extent:
  - independently
  - through a taxi company
  - with the assistance of authorities or cooperating agencies
- Authentication procedures
  - which can be part of the confirmation of the alert
  - use of dedicated channels (e.g. VPN)
  - application of a predetermined signalling system, possibly varying in higher alert levels

Task assignment

Predetermination of the individuals responsible for receiving the deployed personnel, who will issue primary information and task assignments according to the specific situation is essential. Based on the Hospital Major Incident Medical Management and Support (HMIMMS) methodology, scenario-based action cards significantly assist in this task and even facilitate the pre-training and preparation of the personnel. It is important to ensure access to these cards through multiple platforms (e.g. on paper, projectors, a central storage system, in an application). The general content of such action cards includes:

- who assigns tasks
- whom to report to and through which channels
- immediate measures
- main guidelines for the task

Verification

Knowledge of the personnel available to handle the extraordinary event including numbers, capabilities and availability at all times is essential for the leader. Accordingly, it is necessary to monitor this, which can be done through an operational log led by the personnel responsible for alerting and mobilising, based on reports from leadership levels, using registration forms filled out by incoming personnel through a mobile application developed for this purpose, and based on data from the access control system. Additionally monitoring and detecting any potential break in the alert and mobilisation chain, planning interventions and addressing them in an inbuilt manner within the given process is crucial.

Crisis management communication

Identification and differentiation of stakeholders

It is necessary to differentiate between intervention personnel, patients and relatives.

- Intervention personnel
  - Distinguishing from patients and visitors, typically achieved through a uniform; however, this must be ensured for the deployed personnel from the outset.
  - Distinguishing leadership levels and functions, particularly if deviates from peacetime structure (e.g. using different coloured armbands or vests).
- Patients
  - Rapid identification and condition assessment through solutions, such as
    - triage cards
    - wristbands
    - RFID, QR codes
  - Based on the above, simplified record keeping, recording and data transfer.
- Relatives

    - physical separation when possible
    - possible removal when feasible
    - assessment of those assisting in the intervention, as needed

Internal communication within the institution

Intervention staff communication

In this section, it is necessary to document the communication procedures for the intervention staff (who can give instructions to whom and in what sequence, which can be determined on action cards, for example), the methods and channels available, their redundancies and sequence (public address systems, displays, mobile communication devices, applications, etc.).

Communication with patients

In communication with patients, it is necessary to differentiate between patients in the institution and those scheduled for care or, due to the impacts of the extraordinary event, those who may require future care from the institution. The latter will be discussed partly in relation to society.

Communication with institutional patients is primarily focused on reassuring them and providing information about the continuation of their treatment in the given situation. Depending on the characteristics of the emergency event, tasks may include assessing patients (triage), preparing them for transfer, discharging them to their homes, relocating them, or isolating them. Practicing communication schemes related to this is essential for the staff, as their task is to maintain professional patient care and reassure individuals in an intensified atmosphere. Accordingly, this section of the plan requires the development of tasks related to specific scenarios.

Communication with authorities and partner organisations

In this regard, it is necessary to separate and define:

- the applied communication channels, such as
    - mobile phones
    - radio
    - TETRA radio (or any radio system used by authorities)
        - This is advantageous because, with properly separated channels, communication can be conducted smoothly in line with the practice of the authorities, thus supporting the work and communication of the intervening authorities.

    - communication platforms used by public administration in emergencies
        - The advantage of this extends to more extensive extraordinary events, supporting sectoral or national measures with appropriately collected information, as well as clear, uniform, linear implementation of reporting and instruction systems.
- the credible sources of communication
    - institutional contacts, their deputies and their contact information on all applied communication channels
    - authority/interagency contacts, their deputies and their contact information on all applied communication channels

Communication with society

In communication with society, it is important to highlight information directed towards patients who will require care from the institution due to the effects of extraordinary events, as well as providing information to the relatives of patients within the institution. Accordingly, it is necessary to document:

- the applied media, social media platforms, their access methods and authorised users
- institutional contacts, their deputies and their contact details on all applied communication channels
- contacts for mass media, their deputies and their contact details on all applied communication channels
- establishing an information centre
    - informing society according to the above
    - technical requirements for access
    - human resource needs
- pre-prepared templates for scenarios
- how to involve legal expertise, including responsibilities (restricting patient rights, data protection)

In addition to these, it is essential for the staff to regularly train and practice. Their role is crucial in preventing misinformation and malicious initiatives.

Summary

A key tenet of our research is that crisis communication accompanies every step and level of crisis management, from the first indication of an extraordinary event – the alert – through communication with the forces involved in resolving the event and the stakeholders (patients and visitors), to communication with society in general.

The Covid–19 pandemic highlighted the importance of healthcare crisis management and the lack of unified regulations. This gap was most evident in unified communication, as not only national governments but also individual hospitals often applied different techniques and tactics, sometimes in an ad hoc manner.

We explored the requirements of domestic and international regulations, analysed documents and plans from healthcare organisations designated as critical infrastructure in Hungary, with a particular focus on the content elements of communication plans. Beyond legal compliance, we examined the practical applicability and feasibility of these plans.

Our research and practical experience have highlighted the lack of unified guidelines for handling crisis situations in healthcare at the community level. Recommendations from EU and national organisations often provide examples based on individual experiences or scenarios, and they may lift existing peace-time operational foundations for healthcare in a given country. Among these, crisis communication is functionally present but lacks a cohesive approach.

We recommend developing unified guidelines for managing crisis situations in healthcare, encompassing practical solutions such as a standardised colour-coded alert system for use during alerts, the use of action cards summarising the tasks of deployed healthcare staff and facilitating traceability of their implementation. Additionally, techniques for patient identification should be presented, and possibilities for the internal and external channels of crisis communication, their technical requirements and redundancies should be outlined.

The authors of this study have gathered relevant crisis communication techniques and tactics and examined the practical feasibility of legal regulations in Hungary. Based on these findings, we propose the establishment of a framework that, after further professional discussions and research, could serve as a foundation for unified healthcare crisis communication regulations.

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ARTICLE

Artificial Intelligence and Public Relations Synergy in Digital Health Transformation

Strategic Insights and Ethical Considerations

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Indonesia devised a Digital Health Transformation Strategy Blueprint in 2024. The aim of the blueprint is to use the Indonesian Health Services (IHS) platform data to develop healthcare professionals' competencies and formulate sound, evidence-based policies. Nevertheless, there has been a failure to recognise the role of public relations (PR) practitioners in facilitating digital and artificial intelligence (AI) adoption in health transformation strategy. This research, therefore, applied a social-technological system of public relations and artificial intelligence to investigate the needs, skills, abilities and competencies of PR practitioners for digital health transformation, emphasising the use of AI in its application and the ethical considerations around that. The study employed a sequential mixed methods approach that involved focus group discussion (FGD) and survey design. It emerges that, among PR qualifications, organisational strategic support, adaptability to AI technologies, ability to design and execute AI data-driven communication campaigns, and analytical skills for AI applications are significant. The study found that autonomy, fairness in accessing personal information, and respect for roles were key ethical issues considered by PR practitioners. As such, this study stresses

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technical and analytic skills, including ethical concerns, which must be met by PR practitioners supporting digital health transformation.

Keywords: digital health transformation, artificial intelligence, social-technological system, competencies, ethical considerations, public relations

Introduction

In Indonesia, the blueprint for the Digital Health Transformation Strategy 2024 (Ministry of Health of the Republic of Indonesia, 2021) has, since its creation, become a roadmap that provides an overview to all relevant actors (such as stakeholders and healthcare industry players) of how Indonesia's digital health transformation will take place. The blueprint seeks to make all Indonesians healthier by involving every player from the various health service system sectors through the Indonesian Health Services (IHS) platform (Widyawati, 2022). By linking, analysing and servicing multiple healthcare applications, the IHS platform can create a digital health ecosystem for various essential health apps (Ishak, 2023).

Little attention is paid to the important role public relations (PR) practitioners play in this model for two-way communication and understanding. The Ministry of Health monitored registered companies, researching and closing deals to develop the design of the IHS system (Orissa International & Intralink Limited, 2025). Much messaging will have to be done on this platform so as not to allow the interest of customers to dwindle (Ministry of Health of the Republic of Indonesia, 2021). However, more needs to be said about the role public relations activities and skills play in digital health transformation (Weldon, 2024).

In the healthcare sector, the use of artificial intelligence by PR practitioners is not just another fashion, but rather a major breakthrough that changes everything (La Voie Health Science, 2024). Applying AI tools such as AI agent could cultivate better relationships between organisations and the general public (Oh & Ki, 2024). What AI does is that it helps in distributing information that can be easily understood by the public. For example, PR could use an AI-driven chatbot and a FAQ bot on the health service to engage people instantly in human-like conversations (Shah & Borkakoty, 2023). It provides specifically selected, accurate health messages that can be delivered quickly across many different media platforms to reach a wider population (SSG, 2023). With modern data analytics, PR practitioners can track public health trends (Robert, 2023). If problems occur, PR practitioners can respond to them through focused communication campaigns such as press releases or statements made promptly about the issues involved (Lim & Schmälzle, 2023); also, AI ensures the delivery of personalised messages about community health needs, thus increasing the effectiveness of any healthcare-related issue communicated (Oluwafemidiakhoa, 2023).

AI has compelled PR practitioners to assess the requirements of their situation day after day and upgrade their skills, abilities and competencies with regard to AI technologies while doing so (Adi, 2023). These advancements seek to optimise the deployment and maintenance of correct, understandable, transparent information intended for consumption by the general public (AIContentfy, 2024). This means that given the various applications based on AI technology, PR practitioners need to adapt accordingly to manage communications more effectively (Rodsevich, 2023). Mastery of AI technologies has increased outreach towards a larger and more diverse audience, thereby providing better individualised informed services (Zhou, 2023). However, several ethical issues in healthcare founded on AI have been suggested for consideration by PR practitioners (Green, 2025) including, with regard to the use of artificial intelligence by PR practitioners, data privacy, accountability, transparency (Cusnir & Nicola, 2024), fairness and information accessibility (Elendu et al., 2023; Green, 2025). Thus, the proposed research questions are:

> **RQ1:** What are the needs, abilities, skills and competencies that PR practitioners need to possess in relation to the use of artificial intelligence in the healthcare sector?
> **RQ2:** What AI ethical considerations do PR practitioners implement in the healthcare sector?

The current study explores needs, abilities, skills and competencies, as well as ethical considerations among PR practitioners whilst they navigate digital health communication services using AI.

Literature review

Social-technical systems in public relations and artificial intelligence

The use of AI in the healthcare sector PR practice is an important topic for research purposes and practical implementation (Adi, 2023). We proposed that AI technology and PR practices in this sector could be analysed as socio-technical systems (STS). STS develop a framework within which to examine how people in a system interact with the respective technology to influence collective outcomes while being enveloped in a contextual environment (Emery, 1959). STS show that humans are connected in their work systems, specifically in strategic change plans for organisational development (Appelbaum, 1997). STS theory describes the behaviour of organisations and their members whilst providing critical insight into the relationships between people, technology and outcomes (Kull et al., 2013), and helps in developing an understanding of how the integration of AI and employees can generate competitive advantages for organisations (Wang et al., 2023).

STS theory has observed AI integration in organisations, combining the novelty and scope dimensions, and an organisational outreach method to develop an understanding of the integration process (Makarius et al., 2020). AI technology is increasingly being adopted in organisations, but managers and employees have negative perceptions and a lack of understanding regarding training (Frey & Osborne, 2017). Meanwhile, better understanding and integration of AI will help employees (Morandini et al., 2023) to address some of the negative perceptions and opportunities that may arise if companies focus on building socio-technical capital (Makarius et al., 2020).

The extension of socio-technical systems was observed from the integration of human and machine intelligence (Herrmann & Pfeiffer, 2023), which can only be achieved if organisations and individual workers keep abreast of developments (Mills et al., 2023). In particular, organisational processes and outputs – such as decision-making workflows – directly influence the impact of AI in the workplace (Perifanis & Kitsios, 2023). This is important in terms of responding to pre-conditions; humans, therefore, are always aware of developments, as well as supporting the sustainable and reliable function of AI-based socio-technical processes (Herrmann & Pfeiffer, 2023).

In PR, STS focus on the significance of investigating and understanding the complex network relationship, as well as the interconnections between organisations and various stakeholders (Nurgaliyeva, 2023). STS show the relevance of multi-stakeholder partnerships in initiating service development (Kim & Yang, 2023). It requires the participation of members and diverse public organisations in solving technological and social problems (Büscher, 2022). Each participant should be allowed to make decisions and develop mechanisms to resolve problems in a manner that is beneficial to end users while also offering better value to stakeholders (Baxter & Sommerville, 2011). The active participation of PR in the decision-making process (Grunig, 2011) has significantly increased the role of individual social groups and organisations (Adi, 2023), a process initiating conditions for innovative development, as a pattern of evolution and STS growth (Moiseeva & Myatishkin, 2021).

Communication skills are an aspect of STS (Morrow & Fischer, 2013) because new communication and information tools support collaboration, provide accessibility and secure data inflow (Roth & Farahmand, 2023). STS show the connection between digital transformation and communication at both interpersonal and organisational levels, a specialised field of PR (Wuersch et al., 2023). The digital transformation causes PR practitioners to identify communication trends using the latest technology for business interests and societal benefit (Klewes et al., 2017). A recent STS study found that AI implementation in PR is related to the importance of dedicating time and adopting a human-centred or democratic approach (Christensen & Andersson, 2025).

Ethical considerations in AI for public relations in health

AI in health has been considered for ethical guidelines (World Health Organization, 2023; 2024) as well as PR (PR Council, 2023; Public Relations Society of America, 2023). This study elaborates on and discusses the ethics of AI and PR in healthcare. It is important to explain AI and PR ethics to facilitate the dissemination of complex information and clinical outcomes, to foster progress and build trust (La Voie Health Science, 2024).

In one example of ethics in the care sector, Immanuel Kant suggested an ethical approach based on professional roles and duties (Tseng & Wang, 2021), one of which is deontology, which focuses on telling the truth as a key point of ethical principles at work through universal moral obligations (Kant, 1987; 1997; 2015). Ross (2002) explains the significance of observing moral principles and rules in all actions using deontological ethics. PR also adheres to deontological ethics (Bowen, 2004a; Grunig, 2014). PR practitioners are responsible to organisations, the public and stakeholders, who evaluate every decision from their respective societal perspectives (Bowen, 2004b). The public is an inseparable part of the communication process (Bowen, 2013). PR practitioners fulfil the role of ethical advocates by recognising and respecting the information needs and interests of the people

(Place, 2010). PR practitioners should ensure that AI usage does not violate the principles of deontological ethics; for example, PR practitioners should comply with responsible moral rules and principles to protect users' data. PR practitioners must make sure that AI obtains and processes information only if it is fully consensual and authorised by the individual concerned (Yelne et al., 2023).

In Kantian ethics, human-centred approaches to artificial intelligence must prioritise the categorical imperative, autonomy of will, rational beings, human dignity and humanity as an end (Ulgen, 2017). WHO guidelines (2023) stipulate that AI health services ought to follow Kantian ethics by securing autonomy, enhancing security, ensuring transparency, promoting responsibility and guaranteeing equity (Bouderhem, 2024). In line with AI-related PR Council guidelines (PR Council, 2023), Kantian ethics is seen as safeguarding the integrity of information while appreciating roles, including a commitment to accuracy and transparency, diversity of values and openness in the profession, and also to enhancing public trust.

Method

The current research applied mixed methods (Fetters et al., 2013) to provide a comprehensive picture of the navigational and ethical considerations of PR in the AI-based healthcare sector. A sequential mixed method combining a qualitative approach with focus group discussion (FGD) and the quantitative approach with survey methods related to AI and PR recommended by a previous study (Dobreva, 2023). The FGD was conducted to establish the instruments or questionnaire (Esmaeilzadeh, 2020; Mazur & Bennett, 2008), while the survey was intended to collect empirical data to answer the research questions quantitatively (Esmaeilzadeh, 2020).

Once approval from the ethics committee had been gained, a number of PR practitioners who work in healthcare sectors were invited to be participants in the FGD. The invitations were issued based on the PR practitioners having attended a national meeting on health and public service at which the researcher had been a speaker. Once the contact list had been obtained and the selections made, PR practitioners from the Ministry of Health, the central hospital and the regional health service unit were invited to two FGDs. Each FGD had nine participants who were also expert in qualitative methods. Each FGD took 4–6 hours with two breaks for lunch and snack sessions. Two FGDs were conducted to formulate the variables and their indicators (Aldoory, 2001; Wong, 2008). The FGD process followed five steps: 1. establishing research objectives; 2. topic and question selection; 3. developing the guideline; 4. expert assessment; and 5. pilot FGD interview (Yaakop et al., 2023).

Five questions were attached to the first FGD invitation as research objectives that should be discussed during the given FGD session: 1. As a PR practitioner, what do you need in relation to the presence of AI in your work in the healthcare sector? 2. What abilities do you require of AI as a PR practitioner working in the healthcare sector? 3. What AI skills do you need as a PR practitioner working in the healthcare sector? 4. What competences in AI do you require as a PR practitioner working in the healthcare sector? 5. Explain what AI-ethical considerations you need to take into account as a PR practitioner working in the healthcare sector? The questions were on AI in general (Beni et al., 2025) and covered AI tools such as chatbots, predictive analytics, natural language processing and sentiment analysis. During the FGD, facilitators interviewed the PR practitioners as part of an expert assessment. After the FGD, the facilitators and the researcher established the guidelines and the draft questionnaire particularly with regard to the need for an AI presence, the capabilities of AI, AI skills, AI competencies and AI ethical considerations. The researchers added operational definitions for the five observed variables from specific references.

The same PR practitioners who had participated in the previous FGD were also invited to the second. Attached to the invitation was a draft of the questionnaire, along with the operational definition of observed variables (such as need, ability, skill, competencies and ethical considerations) from previous studies (Buttle, 1989; Nagarajan & Prabhu, 2015; Rodrigues et al., 2021; Dhirani et al., 2023), including items or indicators. During the FGD session, the participants were interviewed and their expert judgement was sought on the abovementioned proposed observed variables and their items or indicators.

With regard to the *need variable* for PR practitioners in the healthcare sector in relation to the presence of AI, the FGD participants agreed to adopt Buttle's definition: *needs refer to everything an individual or organisation requires to achieve certain objectives* (Buttle, 1989). In the FGD session, participants not only conveyed the need for an AI presence in concrete and measurable forms, but also in terms of perceptions, personal experiences and dynamic collective aspirations. The participants agreed that the variable on the need for an AI presence that would be presented to PR practitioners consist of four items: 1. technological infrastructure; 2. number of staff aware of the existence of AI; 3. availability of AI-based software; 4. policies; and 5. organisational strategies that support the implementation process.

In terms of AI abilities for PR practitioners, the FGD participants agreed on a definition that stems from that of Nagarajan and Prabhu: *ability is the capacity of an individual or organisation to carry out a task or activity effectively* (Nagarajan & Prabhu, 2015). One of the participants said that the definition was related to AI operational clarity in assessing performance, emphasising the real capacity aspects of knowledge, skills and resources that are needed to achieve results effectively. The participants agreed that the ability variable that PR practitioners should possess were: 1. AI technology understanding; 2. AI-based data analysis techniques; 3. Natural Language Program (NLP) understanding; 4. machine learning algorithms understanding; and 5. adaptability to developments in AI technology.

In terms of PR practitioners' AI skills, the FGD participants agreed with the definition from Rodrigues, Fernández-Macías and Sostero: *skills are* the *practical expertise possessed by individuals to perform certain tasks properly* (Rodrigues et al., 2021). The FGD discussion determined that the definition of skills would be based on conceptual and functional relevance in the context of measuring work skills and productivity, particularly concerning AI. The definition emphasises that skills are not just related to theoretical knowledge, but involve practical expertise that can be applied directly in carrying out certain tasks or jobs. According to one participant, skills are assessed from their ability to produce appropriate and efficient performance in real-life situations while interacting with AI applications. The FGD participants agreed that PR practitioners should be asked about their skill in 1. using AI-based software; 2. reading or understanding the output from AI systems; 3. designing and implementing AI data-based communication campaigns; 4. interaction with the public through AI-based platforms; 5. generating AI system-based evaluation reports; and 6. follow up on AI system-based evaluations.

With regard to PR practitioner competency in AI, the FGD participants agreed with the definition from Rodrigues et al. (2021) which sees *competency as a combination of knowledge, skills, and attitudes required to perform a particular task or role effectively* (Rodrigues et al., 2021). According to one of the participants, this definition not only emphasises cognitive (knowledge) and psychomotor (skills) aspects, but also includes affective (attitude) aspects, which are often the determinants of success in the real-life application of abilities, particularly with AI applications. The participants also decided that PR practitioners should be asked about their 1. knowledge of the basic principles and applications of AI in PR; 2. analysis skills of AI applications in PR; 3. skills in integrating AI data in communication strategies; 4. commitment to PR professional ethics; 5. health ethics; and 6. policy regulations.

Finally, in terms of AI ethical consideration for PR practitioners who work in the healthcare sector, the FGD participants agreed with the definition from Dhirani, Mukhtiar, Chowdhry, and Newe which defines *ethical considerations* as *the moral aspects and values that must be taken into account when using AI technology* (Dhirani et al., 2023). One participant reasoned that the definition emphasises the importance of the ethical dimension as an integral component in the design, implementation and utilisation of AI technology. The participants agreed that PR practitioners should answer items on AI ethical considerations about 1. data privacy; 2. fairness in access to personal data; 3. responsibility in protecting personal data; 4. autonomy; 5. moral responsibility; 6. commitment to accuracy; 7. accessibility; 8. transparency; 9. respecting roles; and 10. commitment to increasing public trust.

The two FGDs succeeded in constructing a questionnaire to answer the research questions, with each of the observed (needs, abilities, skills, competencies and ethical consideration) variables measured using a Likert scale from 1. very unimportant to 5. very important (Henke, 2024). The final sentences of five observed variables and their items were verified by four expert PR practitioners. The average content validity ratio (CVR) value of all components in the designed questionnaire was 0.9, a value indicating evidence of good content validity (Gilbert & Prion, 2016).

The two FGDs also interviewed the PR practitioners to identify any particular AI tools in PR that are used in the healthcare sector. The result of the interview about *AI technology identified and used by PR practitioners* can be seen in the attached Appendix.

After pre-testing the questionnaire, the survey was conducted online through a link to a list of 420 potential participants from the Ministry of Health database of PR practitioners. Furthermore, of the 420 potential participants whose consent was requested through email and WhatsApp, 216 participants responded (a 51.2% response rate) and were willing to fill out a consent form.

The collected quantitative data of all the variables under observation were analysed using SPSS version 24 (Irwansyah, 2024). These observed variables were measured for both reliability and validity utilising Cronbach Alpha (Emerson, 2019; Tavakol & Dennick, 2011), as well as confirmatory factor analysis (Alavi et al., 2020; Buchanan et al., 2014). Descriptive statistical analysis was employed to illustrate the indicators of each respective variable (Henke, 2024). Furthermore, the gender basis served to compare needs, abilities, skills, competencies and ethical concerns, and could be based on other research, such as that which considers AI bias in relation to gender (Latif et al., 2023), disparities in the implementation gap between genders (Mourelatos et al., 2024), or differences in AI use in healthcare services (Cirillo et al., 2020; Ofosu-Ampong, 2023). On this note, a t-test was performed to compare these genders (Kumar & Choudhury, 2022; Latif et al., 2023).

Results and discussion

Results

The respondent profile in Table 1 shows that the majority are female (55.6%) and between 24 and 39 years old (72.7%). Most of the respondents (74.1%) had a bachelor's degree, and a similar proportion (73.7%) reported a basic earned income above 3.6 million rupiah per month, which represents a low average professional salary threshold, considering that in Indonesia's 2025 salary range the lowest average is IDR 3,200,000, the median salary is IDR 11,700,000 and the maximum salary exceeds IDR 54,000,000.

Table 1:
Respondent Profile

Variable	**Indicator**	**Frequency (N = 216)**
Sex	Female	55.60
	Male	44.40
Age	Below 23 years old	10.20
	24–39 years old	72.70
	40–55 years old	17.10
Education	Vocational degree	13.40
	Bachelor's degree	74.10
	Master's degree	12.50
Basic income	Below 3.5 million	26.40
Per month	3.6–4.5 million	37.50
	4.6–5.5 million	26.90
	Above 5.6 million	9.30

Source: Compiled by the author.

All observed variables were highly reliable, as shown in Table 2 ($\alpha = 0.99$, sig. = 0.00, N = 216), which suggests that the measurement instruments were consistent. Similarly, ethical considerations about AI were used to attain the highest and the lowest values of its validity ($\lambda = 0.97$, df = 45, approximate Chi-square = 5,507.46) and needs and abilities regarding AI; ($\lambda = 0.93$, df = 10, approximate Chi-square = 2,329.52–2,343.42, N = 216).

Table 2:
Reliability and validity of observed variables

Variable	Reliability (α)	Validity (λ)	df	Approx. Chi-square	N
Need for an AI presence	0.99	0.93	10	2,343.42	216
Ability with AI	0.99	0.93	10	2,329.52	216
Skill with AI	0.99	0.95	15	2,804.47	216
Competence with AI	0.99	0.94	15	3,006.62	216
Ethical considerations of AI	0.99	0.97	45	5,507.46	216

Source: Compiled by the author.

The findings on the need for an AI presence laid out in Table 3 show that the majority of the respondents consider a variety of aspects that support the implementation of this technology to be important, fairly important and very important. Meanwhile, 63.40% of the respondents (with 37.50% considering it important, 25.90% fairly important and 6.90% very important) considered the organisational strategy that supports AI implementation to be the most important indicator.

Table 3:
Need for an AI presence

Indicators	Important	Fairly important	Very important	Mean	SD
Technological infrastructure	34.70	26.90	8.30	3.05	1.07
Number of staff who have AI knowledge	36.60	25.90	7.40	3.04	1.01
Availability of AI-based software	34.70	26.40	7.90	3.05	1.02
Organisational policies that support AI implementation	35.60	25.50	7.90	3.03	1.05
Organisational strategies that support AI implementation	37.50	25.90	6.90	3.03	1.01

Source: Compiled by the author.

Based on the findings on AI ability shown in Table 4, the majority of the respondents considered a variety of aspects of understanding and adaptability to AI technology to be important, fairly important and very important. The ability to adapt to developments in AI technology was considered the most important by 63.90% of the respondents (38.00% considered it important, 25.90% quite important and 6.50% very important).

Table 4:
Knowledge about AI

Indicators	Important	Fairly important	Very important	Mean	SD
Understanding AI technology	35.20	26.90	7.90	3.04	1.06
Understanding technical AI-based data analysis	37.00	25.90	6.90	3.03	1.01
Understanding Natural Language Processing	35.20	26.40	7.40	3.05	1.01
Understanding machine learning algorithms	36.10	25.50	7.40	3.02	1.04
Adaptability to development in AI technology	38.00	25.90	6.50	3.03	1.01

Source: Compiled by the author.

The AI skills presented in Table 5 were seen differently by most respondents, according to whom, some elements that are necessary in order to use and understand artificial intelligence are crucial, while others are fairly significant or very significant. The majority (68.50%) of the participants felt that having the capacity to develop and run AI-driven data-focused communication campaigns was essential (41.20% thought it was important, 21.30% fairly important and 6% found it very important).

Table 5:
Skill with AI

Indicators	Important	Fairly important	Very important	Mean	SD
Ability to use AI-based software	41.20	19.00	6.90	2.96	0.99
Ability to read or understand the output from AI systems	40.70	20.80	6.50	2.96	0.99
Ability to design and implement an AI data-based communication campaign	41.20	21.30	6.00	2.96	0.98
Ability to interact with the public through an AI-based platform	39.4	19.40	7.90	2.96	1.01
Ability to develop an evaluation report based on an AI system	39.4	21.30	7.40	2.99	1.01
Ability to follow up an evaluation report based on an AI system	39.80	19.90	7.40	2.94	1.02

Source: Compiled by the author.

With regard to competence in AI, Table 6 indicates that the majority of the respondents considered various aspects of knowledge and commitment to ethics and regulations in the application of AI to be important, fairly important and very important. Competencies such as analytical skills in the application of AI in PR are the most essential, rated as important by 79.90% of the respondents (51.20% considered it important, 20.80% fairly important and 7.90% very important).

Table 6:
Competence in AI

Indicators	Important	Fairly important	Very important	Mean	SD
Knowledge of basic principles and application of AI in public relations	40.70	19.40	8.30	2.95	1.07
Analytical skills in AI application in public relations	41.20	20.80	7.90	2.97	1.05
Integrated skills in AI data for communication strategies	38.40	21.80	7.90	2.96	1.07
Commitment to professional ethics in public relations	39.80	19.40	7.90	2.93	1.06
Commitment to ethics in healthcare	38.90	23.10	7.40	2.97	1.07
Commitment to policy regulations	42.60	21.80	6.90	2.96	1.04

Source: Compiled by the author.

As is apparent in Table 7, many of the respondents regarded the ethical considerations of AI as important, fairly important, or very important. Autonomy was noted as most essential by 71.20% of the respondents (38.40% considered it important, 26.90% fairly important and 5.60% very important).

The comparison results based on the t-test between gender and all the indicators of observed variables (needs, abilities, skills, competencies and ethical considerations) shown in Table 8 demonstrates significant differences between the female and male groups in only two indicators. The first of these is fairness in access to personal data, where the average rating for both females and males was 3.17 and 2.94, respectively. Furthermore, with t-statistic and p-values of 0.21 and 0.04, this difference is statistically significant, implying that females tend to have a more positive view of the fairness of access to personal data compared to males. With regard to respect for roles, the second indicator shows the average rating for both males and females at 3.09 and 2.94 respectively, with a t-statistic of 0.73 and a p-value of 0.03, thus indicating that there are significant differences between female and male respondents concerning what they considered fair access to personal data, and respect for roles in an organisation.

Table 7:
Ethical considerations of AI

Indicators	Important	Fairly important	Very important	Mean	SD
Data privacy	37.20	26.00	6.00	3.00	1.01
Fairness in access to personal data	38.00	28.20	4.20	3.00	0.98
Responsibility for protecting personal data	36.60	26.90	6.00	3.00	1.03
Autonomy	38.40	26.90	5.60	3.01	1.01
Moral responsibility	35.60	27.80	6.50	3.04	1.01
Commitment to accuracy	38.90	26.40	5.60	3.00	1.01
Openness	37.00	27.80	6.00	3.03	1.02
Transparency	36.10	27.30	6.00	3.01	1.02
Respect for roles	36.60	26.40	6.00	3.00	1.02
Commitment to increase public trust	37.00	26.90	5.10	2.99	1.00

Source: Compiled by the author.

Table 8:
T-test results for two significant indicators of AI ethical considerations

Indicators	Group 1 Mean (Female)	Group 2 Mean (Male)	T-statistics	df.	P-value
Fairness in access to personal data	3.17	2.94	0.21	214	0.04
Respect for role	3.09	2.94	0.73	214	0.03

Source: Compiled by the author.

Discussion

The current research explored the needs, abilities, skills, competencies and ethical considerations required by PR practitioners to use AI in the healthcare sector. With regard to the need for an AI presence, it is critical that health PR practitioners get support from organisational strategies to help with the AI implementation process. This corresponds to previous studies (Verhoef et al., 2021) which have reported that AI deployment in healthcare has led to increased operational effectiveness and facilitated knowledge acquisition through sophisticated data analytics. For organisations to gain the greatest benefits from this technology, an organisational strategy driven by artificial intelligence is a must. In terms of the STS perspective, the organisation could gain a competitive advantage if employees such as PR practitioners integrate AI (Wang et al., 2023) in their working system (Appelbaum, 1997). Furthermore, AI technologies in PR can also be utilised for crisis communication management, public sentiment analysis, creating personalised messages, and reinforcing results by emphasising the implementation process (Fan & Gordon, 2014). The practical implementation of AI also relies on a distinct organisational strategy and backing from top levels of management (Davenport & Ronanki, 2018).

Additionally, AI deployed in PR can help in the management of crisis communication activities, analysing public sentiment and customising messages. Among the STS aspects, PR healthcare communication skills (Morrow & Fischer, 2013) and strategies will significantly benefit from the implementation of AI; going through the process can provide significant advantages (Fan & Gordon, 2014). The successful implementation of AI relies on a clear organisational strategy and support from upper management levels (Davenport & Ronanki, 2018). Without a well-planned strategy, the AI implementation process in PR activities may face obstacles such as employee resistance and operational ambiguity that are detrimental to a healthcare sector in dire need of reliability and precision (Brougham & Haar, 2018).

The current investigation identified the awareness of PR practitioners to the importance of in-depth understanding and adaptability in various aspects of AI technology in supporting the effective implementation of communication strategies in the healthcare sector. This is in line with previous research from the Brookings Institution (West & Allen, 2018) that showed that in-depth knowledge of AI technology is essential in ensuring that the implementation process goes smoothly and produces the expected results. Another such study (Ransbotham et al., 2017) showed that adaptability to AI technologies is one of the main factors in successful adoption. From an STS perspective, individuals and organisations that adapt quickly to technological changes tend to take advantage of the opportunities offered by AI (Morandini et al., 2023). Adaptability could thus assist in reducing resistance to change, often regarded as one of the major barriers to the implementation of new technologies (Kotter, 1995). In another study, Huang and Rust (2018) also identified that PR practitioners required a sound knowledge of AI technology in order to design and implement effective communication strategies.

The current research demonstrates that healthcare-related PR practitioners understand the importance of skill in building AI data-driven communications strategies to support efficient implementation. This supports an earlier study by van Dijck et al. (2018) that showed the increasing importance of data analysis and AI applications in the digital age. AI applications can assist in data collection, processing and interpretation, potentially generating useful data to engender more effective and targeted communication campaigns. The STS perspective identified the ability to understand and optimise data as one of the main factors for success in modern data communications management (Akbarighatar et al., 2023). The analysis of data by PR practitioners who are experts in the digital health sector can boost viewership trends and become a preference among audience members (DiMaggio & Hargittai, 2001). Furthermore, AI-led communication campaigns can raise participation rates among users. Utilising AI algorithms in the creation of messages allows companies to generate content that is interesting and relevant for particular people, sustaining their confidence and allegiance (Kumar et al., 2024). These skills may increase the trustworthiness and accuracy of information. The integration of an understanding of AI applications and the development of a communication strategy may also contribute to the success of a PR career. AI applications enable Public Relations experts to pre-empt audiences' behavioural trajectories so as to create more anticipatory and data-based campaigns (Adi, 2023). Through the incorporation of AI into public relations communication strategies, organisations can undertake proper predictive analysis and adjust their campaigns according to market dynamics (Pal, 2024). The usefulness of AI-based data analytics on communication campaigns comes in obtaining results and making better strategic decisions than others (Shah & Borkakoty, 2023).

The findings show the significance of analytical capabilities with AI applications for PR practitioners in the healthcare sector because they enable more efficient data-driven decision-making and management. A previous study of the STS perspective showed that data-driven decision-making is of paramount importance in effective knowledge management practice (Thomas, 2024). AI technology assists PR practitioners by automating mundane chores, and at the same time by offering profound insight into health trends and patient behaviour which in turn helps in the development of effective communication strategies (Zararsiz, 2024). Moreover the implementation of AI in public relations can effectively enhance the activity of content creation and data analysis (Lipschultz et al., 2022), and the use of AI applications can allow PR practitioners to concentrate and prioritise strategic tasks (Meng et al., 2024). The use of AI technology in media monitoring and public sentiment analysis eliminates many time-consuming tasks, and an examination of artificial intelligence applications could provide important feedback on public opinion, as well as creating better ways of managing reputation by interpreting specific trends that can improve future strategies within this area (Davies, 2024).

Zirar et al. (2023) argue that although AI helps in data analysis as well as automation, creativity and understanding are indispensable in PR when it comes to creating an evocative narrative that carries emotional weight (Meyer, 2023). If effective and meaningful communication are to occur, Markauskaite et al. (2022) posit that human skills need to be blended with artificial intelligence-powered analytical capabilities. From the STS perspective, the blend between human skill and AI-powered analytical capabilities may bring better instrumental and humanistic objectives (Akbarighatar et al., 2023). Another previous study also found that the blended skill could facilitate crisis management by analysing real-time data and giving automated feedback, which is especially useful in maintaining consistency in communication while offering insights for strategic realignments (Biswal, 2020).

This study found that autonomy is one of the main AI ethical considerations for PR practitioners in their healthcare service work. As previous studies on healthcare service have shown, autonomy is crucial for other practitioners in the health service, such as medical personnel, because of AI algorithms (Naik et al., 2022). In the context of health care, autonomy means that individuals, whether they are practitioners or patients, should have full control over the healthcare system and medical choices (Mennella et al., 2024). Another study discovered that AI can undermine patient autonomy by limiting direct engagement with healthcare practitioners (Morley et al., 2020). Nonetheless, the introduction of AI into healthcare must be handled cautiously to ensure that it supplements rather than substitutes medical professionals. Still, earlier investigations posited that autonomy within an AI setting relates to two actors (Grote & Berens, 2020). PR practitioners in the healthcare sector need to maintain ethical standards while also being driven by technological changes, making autonomy a critical ethical consideration (Ayinla et al., 2024). This was achieved by including this balance in PR guidelines that specify ethics in the use of AI (Public Relations Society of America, 2023). Consequently, PR officials' ethical considerations regarding the use of AI led to bilateral communication, as well as public knowledge about medical care delivery (Adi, 2023).

In the context of AI ethical considerations, both female and male PR practitioners had differing perceptions of the fairness of personal access and respect for roles. Females had more positive ratings on these two indicators of AI ethical considerations. The results of the current study, therefore, support the 2020 Report of the European Institute for Gender Equality, which indicated that more than 54% of females had a positive view of AI tools (Barbieri et al., 2020). Another study also showed that females were more concerned about ethics in AI (Mourelatos et al., 2024).

In terms of digital health transformation, from the STS perspective, this study recognised that PR practitioners would interact with AI technology not only in the healthcare sector but also in the health communication sector. As a part of organisational strategic support, the classical behaviour of an organisation may change dynamically, leading to competitive advantages (Wang et al., 2023) in digital health transformation. A better understanding of management would develop AI training for healthcare and PR practitioners (Nurgaliyeva, 2023); and the integration of an AI technology training process (Makarius et al., 2020) to develop the abilities, skills and competences of PR practitioners in the health sector would enhance better health communication service at the interpersonal or organisational levels (Wuersch et al., 2023). At the same time, new AI-based communication and information tools (Roth & Farahmand, 2023) could transform the modelling of public health services (Carter et al., 2020), including the ethical guideline on health (World Health Organization, 2023; 2024) and public relations (PR Council, 2023; Public Relations Society of America, 2023). PR practitioners with AI competences could integrate the communication process without violating the principles of deontological ethics (Yelne et al., 2023) such as autonomy, fairness in access to personal data and respect for roles.

Conclusion

This research succeeded in demonstrating the importance of needs, abilities, skills and ethical considerations that PR practitioners should possess when using AI in the healthcare sector. The findings of this study underscore that the application of artificial intelligence in public relations practice within the healthcare sector requires the fulfilment of essential needs, including technological infrastructure, AI-based software and supportive organisational policies and strategies. In terms of abilities, practitioners must possess advanced literacy in AI technologies such as machine learning and natural language processing, along with strong adaptability to ongoing technological developments. The skills required involve mastery of AI tools, the capacity to interpret system outputs, and the design and evaluation of data-driven communication campaigns. Furthermore, the core competencies encompass advanced analytical skills, the integration of data into communication strategies, and a commitment to professional ethics and healthcare regulations.

The findings were particularly relevant because they concentrated on how scientific and technical information should be conveyed to practitioners, enabling the effective and ethical adoption and use of AI technologies. In terms of the STS perspective, PR practitioners require an organisational strategy that supports the implementation process, as well as the ability to adapt to developments in AI technology. PR practitioners should also have specific skills, such as in the design of AI data-driven communication campaigns and analytical skills with regard to AI applications.

AI ethical considerations, namely autonomy from clients and fairness in access to personal data, are crucial aspects that should be understood and implemented by PR practitioners in the healthcare sector. PR practitioners should be aware of the ethical implications of AI use, including the maintenance of public trust during digital health transformation. Aside from that, this research also found gender differences in perception, with females having more positive ratings on the two indicators of ethical considerations concerning AI in the healthcare sector.

This research had several limitations that affect the validity and generalisability of the findings. The FGD process through which the instrument or questionnaire for data collection was established may have been biased by the researcher's own interest. The data collection method (the survey) could also have been affected by participant bias in which responses conform to social and professional norms, rather than reflecting actual experience, which could affect the accuracy of the data. Furthermore, this research focused on needs, abilities, skills and competencies, including ethical considerations about AI technology in general, while other factors such as organisational culture and policy support considered relevant for the successful integration of AI and specific AI tools were not discussed in-depth. Future investigations should cover these various aspects to provide a comprehensive picture that can be widely applied. In terms of methodology, the variables of need, ability, skills and competencies regarding AI have not yet been elaborated in specific terms. Future studies could extend into multivariate analysis such as factor analysis to create integrated terms for the variables.

AI technology has developed rapidly; in consequence, the findings of this research might quickly become outdated. Practitioners and organisations should continually update relevant knowledge and skills. This suggests the need for ongoing ethical assessment as technology advances. Although this investigation provided practical recommendations, the implementation in real-life contexts faces challenges such as resistance to change, budgetary constraints and lack of management support. Future research is needed to explore effective strategies for overcoming these obstacles while ensuring the successful integration of AI in PR.

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Appendix

AI technology identified and used by PR practitioners

AI technology	Application in healthcare sector	Example AI tools
Natural Language Processing (NLP)	Analysing public perceptions of hospitals, vaccinations and health policies on social media.	Drone Emprit, NoLimit, Prosa.ai
Chatbot and Conversational AI	Patient information services, questions and answers about Covid-19, immunisation, or hospital registration.	Halimun (Kemenkes RI), Botika AI, Qiscus Chatbot
Generative AI (AI for Content)	Create health education content such as articles, Instagram captions and press releases.	ChatGPT (used by private hospital PR content teams and agencies), Writesonic
Predictive Analytics and Crisis AI	Predicting crisis issues such as viral patient complaints or hoaxes about hospitals and vaccines.	Brandwatch Indonesia, Meltwater Jakarta, NoLimit Dashboard
Sentiment and Monitoring Analysis	Monitor hospital news, patient feedback on Google Reviews and trending health topics.	Drone Emprit Academic, Sociov, NoLimit, Komunika
Computer Vision (image processing)	Verifying health campaign visualisation, monitoring hospital image content.	Google Vision AI (via developer API), Clarifai (via local startup partnership)
Speech-to-Text / Voice Recognition	Transcripts of doctor interviews or patient testimonials for video/audio content PR purposes.	Google Speech-to-Text, Otter.ai, Prosa.ai (local)
Personalised Messaging AI	Sending immunisation reminders, specific service promotions to certain patient segments via WhatsApp/SMS/email.	Qiscus Omnichannel, Twilio API (integrated by major hospitals), OneSignal Indonesia
Multimodal AI (text, image, voice)	Interactive educational videos about Covid-19, healthy lifestyle promotion, mask usage, etc.	Pictory AI, Lumen5, Canva AI (widely used by private hospitals and healthcare startups)
Explainable AI (XAI)	Transparent explanation of AI results in diagnosis, used in public education by PR hospital.	Not yet widely used explicitly in PR, but this concept has begun to be introduced by the Indonesian Ministry of Health in public communications regarding medical AI.

Source: Compiled by the author.

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ARTICLE

Green Label

Investigating Environmental Labelling as a Communication Tool in Hungary

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Empirical research suggests that labelling individuals as environmentally conscious based on their past behaviours can strengthen their attitudes to the environment and promote further eco-friendly actions, resulting in positive spillover effects. This study aims to test the effectiveness of environmental labelling as a communication tool for energy conservation and domestic product consumption. The online survey of 668 Hungarian participants used an experimental design. Although the effects were weak, even brief exposure to labelling messages resulted in statistically significant changes in environmental attitudes, while no significant effect was found on behavioural intentions. We hypothesise that repeated exposure to similar messages could reinforce attitudes and result in behavioural change. Additionally, the study sought to identify social groups that may serve as target audiences for environmental labelling related to domestic product preferences. Cluster analysis suggests that individuals with conservative views and a preference for right-wing political parties may be particularly responsive to this communication tool. We must add that the non-probabilistic snowball sampling method and the resulting overrepresentation of young, urban and liberal individuals limits the generalisability

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of the findings for the broader Hungarian population, so further research based on nationally representative samples is needed to validate these results.

Keywords: pro-environmental behaviour, environmental attitudes, environmental labelling, social labelling, energy conservation, domestic product consumption

Introduction

The primary goal of this research was to test the effectiveness on a Hungarian sample of a specific communication tool grounded in behavioural science, namely *environmental labelling.* The second goal of the study was to identify segments of Hungarian society that could serve as target groups for such messages.

This research was novel in three ways compared to previous studies on environmental labelling, which have been conducted in Western Europe and the United States with no research on this topic in Central and Eastern Europe, including Hungary. Given that this region has a completely different historical, economic and political background, it is not evident that the results obtained in the 'West' would hold true here as well. Regional differences are well demonstrated by research data showing that the populations in Central and Eastern European countries generally regard climate change as a less cardinal issue, and political polarisation on the topic is much weaker than in Anglo-Saxon and Western European countries (McCright et al., 2016).

Second, in previous studies on the method, experimental manipulation was typically used to make participants choose a pro-environmental solution or feel environmentally conscious, and then environmental labelling was applied (Cornelissen, 2007; Cornelissen et al., 2007; Lacasse, 2016). In contrast, we applied the tool to specific, past pro-environmental behaviours that individuals had engaged in, to ensure that the lessons learned from the research could be as applicable to social marketing practices as possible.

Third, in addition to testing the effectiveness of environmental labelling, we also sought to identify the potential target group for this communication tool, again with a focus on the practical applicability of the research. Based on empirical research, labelling is particularly effective in the case of moderate values and attitudes (Carrico et al., 2015; Eby et al., 2019; van Vugt, 2001). Therefore, we aimed to identify segments of Hungarian society, based on demographic and political dimensions, that do not reject efforts related to climate change but exhibit lower-than-average environmental commitment and are closely associated with pro-environmental behaviours that serve as the subject of labelling.

Literature review

Pro-environmental behaviour and positive spillover

In the international literature, the phenomenon of behaviour change being followed by additional activities related to a similar goal (in this case environmental protection) is referred to as *positive spillover.* According to certain theories, positive spillover is not directly caused by the behaviour itself; rather, the effect is moderated by an intermediate factor, such as environmental identity or environmental attitude, through the processes of self-perception (Bem, 1972) and the drive for cognitive consistency (Festinger, 1957). The construct's popularity among environmental psychology researchers and its practical relevance stems from the fact that positive spillover enables the realisation of the greatest possible ecological benefit by promoting a single pro-environmental activity (Henn et al., 2020; van der Werff et al., 2013).

However, observing someone's past actions with positive environmental impacts can only lead to positive spillover if the activity has a high diagnostic value with regard to environmental protection – meaning the individual must clearly associate it with the concept of sustainability (Henn et al., 2020). This is not always the case, as people engage in many activities that could be considered pro-environmental but do not associate them with environmental protection. This may be because the behaviour is very common in a given community or because it is motivated by factors unrelated to environmental protection (Cornelissen et al., 2008; Raghubir & Menon, 2005). The communication tool of environmental labelling attempts to bridge this gap by labelling individuals as environmentally conscious based on their past actions. Empirical results show that environmental labelling increases the diagnostic value of environmental protection behaviour, strengthens the individual's environmental identity and attitudes, and thereby increases the likelihood of further pro-environmental behaviours being adopted (Cornelissen et al., 2007; Fekete, 2022a; Lacasse, 2016).

Communication techniques encouraging pro-environmental behaviour

Traditional social marketing approach

Since traditional social marketing operates under the premise that people make rational decisions and behave accordingly in their daily lives, it typically employs educational, information-based strategies that rely on logical arguments.

Empirical results indicate that information sharing alone is not particularly effective in encouraging pro-environmental behaviour (Cornelissen et al., 2007; Schultz, 2002). For instance, a communication campaign in the Netherlands about global warming significantly increased public knowledge on the topic, but its impact on behaviour was negligible (Staats et al., 1996).

The limited effectiveness of information-based strategies can be explained by several psychological phenomena. One such phenomenon is *psychological reactance,* which suggests that when individuals feel their freedom of choice is being restricted, they may react by behaving in opposition to what is intended to restore their autonomy (Brehm & Brehm, 1981; Reich & Robertson, 1979). Such responses may arise to messages that frame pro-environmental behaviour as a moral obligation, since 'people do not like being told what to do' (Cornelissen, 2007, p. 72). Another disadvantage of this type of communication is that it may implicitly convey that most people are not concerned with environmental protection, which, as a descriptive social norm, can have the opposite of the intended effect

(Cialdini, 2003). Moreover, discussing collective benefits is likely to trigger associations with individual costs. Since the benefits of pro-environmental actions are long-term, while the costs are immediate, this can easily lead to decisions contrary to environmental awareness (Albarracín & McNatt, 2005).

Behavioural social marketing approach

The common basis of behavioural science techniques is that people have limited information-processing capacity, which is why they apply various simplifying processes for perception and information processing. Empirical research shows that when cognitive resources are focused elsewhere or are limited due to fatigue, information overload, or time pressure, there is a higher likelihood of heuristic information processing (Gilbert et al., 1990; Petty & Cacioppo, 1986). In such situations, we are more likely to make decisions automatically, influenced by external cues. Several researchers argue that in everyday life, when commuting, managing households, or making daily consumer choices, we often experience cognitive overload, leading to superficial, heuristic information processing and automatic, often irrational decision-making. Based on this argument, it is reasonable to assume that when making everyday decisions related to environmental protection (e.g. energy consumption, waste management and product selection), cognitive overload and heuristic processing are more of a rule than an exception. In such cases, it is not the conscious weighing of long-term environmental consequences that guides our behaviour, but rather the internal and external environmental cues, often in an automatic, unconscious manner (Cornelissen, 2007; Kahneman, 2012).

Tversky and Kahneman (1974) demonstrated that human decision-making is not only irrational or automatic but also frequently prone to predictable errors, which they termed *cognitive heuristics.* In 2008, Thaler and Sunstein introduced the concept of *choice architecture,* aimed at leveraging behavioural science heuristics and phenomena to encourage people toward decisions that, in their own judgment, put them in a better position. These so-called *nudges* subtly influence decision-makers in a predetermined direction while preserving their freedom of choice and without using significant economic incentives (Thaler & Sunstein, 2008). In this approach, environmental marketing is intended to increase the likelihood of pro-environmental behaviour by using *subtle techniques* or *nudges* that influence heuristic, automatic information processing (Cornelissen, 2007).

The social labelling method

Social labelling is a persuasive technique in which a person's traits or values are assigned a socially relevant label. Empirical results suggest that this can lead to a self-fulfilling prophecy through the processes of self-perception (Bem, 1972) and cognitive dissonance (Festinger, 1957), increasing the likelihood that the individual will behave consistently with the label (Cornelissen et al., 2007; Eby et al., 2019; Lacasse, 2016). This tool can be seen as a form of nudge because, while it preserves freedom of choice, it attempts to steer people's decisions in a certain direction using behavioural science techniques (Eby et al., 2019;

Thaler & Sunstein, 2008). For labelling to work effectively, the label must not conflict with the person's original values. Research has shown that labelling is most effective when the person's attitudes or values are moderately strong, as those with already strong values are likely to behave consistently with those values regardless of labelling (Carrico et al., 2015; Eby et al., 2019; Fielding & Hornsey, 2016; van Vugt, 2001).

In the field of sustainability, studies on the effectiveness of social labelling (or environmental labelling) have shown mixed but promising results. Several studies have demonstrated the significant effect of environmental labelling on environmental attitudes and, in some cases, pro-environmental behaviour (Cornelissen et al., 2007; Eby et al., 2019; Lacasse, 2016).

In one such study, Cornelissen and his colleagues (2007) tested whether labelling individuals as 'environmentally conscious' after non-environmentally motivated actions would increase the likelihood of further pro-environmental actions. The results indicated that environmental labelling led to more environmentally friendly product choices compared to the control group, although the difference was only significant when participants' cognitive capacity was occupied. The researchers argued that everyday shopping situations are similar to the *cognitive distraction* condition in that experiment, as 'most of our daily decisions occur as part of a continuous and overlapping stream of mental activities', suggesting that environmental labelling could be an effective tool in real-life situations as well (Cornelissen et al., 2007).

In another study, Lacasse (2016) used an experimental design to manipulate participants' self-perception, with one group feeling that they frequently engaged in pro-environmental behaviour and the other group feeling that they rarely did so. Subsequently, the group who were made to believe they engaged in more pro-environmental actions received a message labelling them as 'environmentalists'. The results showed that the labelled group exhibited significantly stronger environmental identity, attitudes and concern compared to the control group.

Eby et al. (2019) labelled participants as 'green', 'trendy', or 'financially conscious' based on their household habits. The results showed that groups labelled with non-environmental labels donated significantly less to environmental causes compared to the non-labelled group. However, the effect of environmental labelling was not significant across the full sample, except when political preferences were considered. Interestingly, while left-leaning Democrat voters were more concerned about the environment and donated significantly more to environmental causes than right-leaning voters, labelling had no effect on them. In contrast, among Republicans, who generally showed lower environmental awareness, environmental labelling had a significantly positive impact (Eby et al., 2019). This result reinforces previous findings that labelling is most effective with moderately strong values (Carrico et al., 2015; van Vugt, 2001).

In summary, social labelling appears to be effective in an environmental context, as all empirical studies in the field have shown some significant effects. The method is more effective when participants' environmental attitudes and values are of moderate strength and when their cognitive capacity is somewhat occupied (Bosmans & Warlop, 2005; Carrico et al., 2015; van Vugt, 2001; Cornelissen et al., 2007). Researchers argue that most of society has only moderate environmental commitment, and most everyday decisions related to transportation, household management and shopping are made with limited cognitive capacity, using heuristics (Kahneman, 2012). As a result, environmental labelling could also be a useful tool in everyday life (Cornelissen et al., 2007; Eby et al., 2019).

The method has several advantages over traditional social marketing practices. Classical environmental messages typically emphasise people's laziness, irresponsibility and ignorance, which negatively impact self-image and implicitly reinforce the social norm of environmental neglect (Cialdini, 2003). Such messages, which include prescriptive norms, can also trigger psychological reactance, leading to behaviour opposite to that desired (Brehm & Brehm, 1981). In contrast, environmental labelling has a positive effect on self-esteem, to which people respond more favourably (Reich & Robertson, 1979), and like the nudge method, it does not restrict personal freedom of choice (Cornelissen et al., 2007; Thaler & Sunstein, 2008). Some evidence suggests that techniques that influence self-perception can lead to long-term attitude changes (Albarracín & McNatt, 2005). Furthermore, empirical findings suggest that the method is particularly effective in targeting societal segments with moderate pro-environmental activity, which should be the primary goal of environmental marketing (Eby et al., 2019).

Methodology

Energy conservation and purchase of domestic products as activities underpinning environmental labelling

In this research, we aimed to apply the communication tool of environmental labelling to specific pro-environmental actions that individuals had carried out in the past. Our goal was to ensure that the results would be applicable to the practice of social marketing. To achieve this, we needed actions with a positive ecological impact that were relatively widespread among the Hungarian population but were primarily motivated by factors other than sustainability. These actions could then serve as the basis for environmental labelling (Cornelissen et al., 2007; Lacasse, 2016). Based on previous quantitative research in this field (Hámori & Horváth, 2009; Magyar Termék Nonprofit Kft., 2017; Varga et al., 2024), as well as our own qualitative preliminary research (Fekete, 2022b), energy conservation and the consumption of domestic products meet both criteria. Efforts to conserve energy are widespread among the Hungarian population. According to a representative survey conducted in 2022, 67% of the Hungarian population planned to reduce their energy consumption. The proportion of those already practising energy conservation could be even higher, as the question specifically referred to plans to reduce consumption, which implies that those who were already fully focused on energy conservation might not have selected this option. Moreover, the data collection occurred before the government's limitations on utility cost reductions, which likely further increased the prevalence of energy-conscious behaviour (Varga et al., 2024). Previous research (Schäfferné, 2007; Stanley & Lasonde, 1996), as well as our own qualitative preliminary findings (Fekete, 2022b) make it clear that energy-saving practices are primarily motivated by financial considerations rather than environmental concerns.

The consumption of domestic products is also a common practice in Hungarian society. Previous quantitative studies indicating that 50%–75% of the population prefers domestic products to some extent (Hámori & Horváth, 2009; Magyar Termék Nonprofit Kft., 2017). While domestic products generally have a smaller ecological footprint due to shorter transportation distances, individuals mostly choose them in order to support the national economy, through national pride, and for perceived higher product quality, with the environmental aspect appearing relatively weakly (Berács & Malota, 2000; Fekete, 2022b; Hámori & Horváth, 2009). Furthermore, the preference for domestic products is especially prevalent among individuals with conservative and right-wing worldviews (Malota, 2003; Papp-Váry & Zahorecz, 2017; Nagy-Pető et al., 2023) who tend to exhibit slightly lower than average levels of environmental commitment (Cruz, 2017; Mónus et al., 2022; Schneider & Medgyesi, 2020). Since environmental labelling has been shown to be particularly effective with moderately strong attitudes and values (Carrico et al., 2015; Eby et al., 2019), the environmental labelling of domestic product consumption presents a highly promising area for further research.

Research objectives and hypotheses

The primary objective of this research was to test the method of environmental labelling in relation to specific pro-environmental actions on a Hungarian sample. The secondary objective was to identify segments of Hungarian society that could serve as target groups for such messages.

In an online survey, we used an experimental design through which participants were randomly assigned to either an experimental group or a control group. The experimental group received a message reinforcing their past pro-environmental behaviour by applying environmental labelling related to a specific action (purchasing domestic products or energy conservation), while the control group did not receive any such message. Based on the experimental results detailed in the theoretical introduction, we expected environmental labelling to strengthen participants' environmental attitudes and their intention to engage in pro-environmental behaviours (Cornelissen et al., 2008; Cornelissen et al., 2007; Eby et al., 2019; Lacasse, 2016). Accordingly, we formulated the following hypotheses:

H1: Environmental labelling will result in stronger attitudes towards environmental conservation and weaker attitudes towards environmental utilisation in the labelled group compared to the non-labelled group.
H2: Environmental labelling will lead to greater concern for environmental issues and an increased sense of importance regarding climate change in the labelled group compared to the non-labelled group.
H3: Environmental labelling will result in stronger pro-environmental behavioural intentions in the labelled group compared to the non-labelled group.

The secondary goal of the research was to identify social groups – using demographic and ideological variables – for whom the communication method under study may be particularly effective. For this purpose, we formulated specific hypotheses related to ideological and political variables. Additionally, we complemented the results of the hypothesis testing with a cluster analysis that was conducted using relevant attitudinal, behavioural, demographic and ideological variables. Since energy conservation is common across the entire country and previous research had not reported relevant demographic or political divides (Naár, 2022; Schäfferné, 2007; Varga et al., 2024), the formation of target groups was only feasible for messages related to the preference for domestic products.

Previous quantitative research suggests that individuals with a conservative ideological orientation and those who favour right-wing parties are not dismissive of environmental issues, but exhibit only moderate commitment (Cruz, 2017; Mónus et al., 2022; Schneider & Medgyesi, 2020). Furthermore, since the preference for domestic products is associated with ethnocentrism and national pride, and this preference has been shown to correlate with conservative ideological self-identification (Balabanis et al., 2001; Malota, 2003), we hypothesised that there was a more than average likelihood of these individuals preferring Hungarian products (Malota, 2003; Papp-Váry & Zahorecz, 2017; Nagy-Pető et al., 2023). Based on this, we assumed that individuals with a conservative ideological orientation and those who favour right-wing parties may be specific target groups for environmental labelling applied after past domestic product consumption. Accordingly, we formulated the following hypotheses:

H4: Conservative ideological orientation will show a negative relationship with attitudes towards environmental conservation and a positive relationship with the preference for domestic products.
H5: Voters for right-wing parties will have weaker attitudes towards environmental conservation and a stronger preference for domestic products compared to voters for left-liberal parties.

Procedure

Data collection and ethical considerations

For this research we developed a quantitative questionnaire package. Data collection was conducted online using Qualtrics software. Although the sampling employed the non-probabilistic snowball method due to limited financial resources, strong efforts were made to create a balanced and diverse sample. Students studying psychology and teacher education at Pázmány Péter Catholic University and Eszterházy Károly Catholic University assisted in recruiting participants. The students participated voluntarily in exchange for bonus points towards their end-of-year practical exams. Each student was required to recruit 10 participants based on predetermined demographic criteria (gender, age, region and educational level). Beyond this, the online questionnaire was not shared on any social media platforms. Data collection took place between 27 November and 18 December 2023. The questionnaires took between 15 and 25 minutes to complete.

The research was approved by the Research Ethics Committee of the Institute of Psychology at Pázmány Péter Catholic University. The ethical approval reference number is: 2023_86. Participants had to be at least 18 years old to take part in the study and received no financial compensation.

Experimental design

We employed an experimental design to examine the effectiveness of environmental labelling based on a study by Lacasse (2016). Participants were randomly assigned to either an experimental group or a control group. Both groups completed an online questionnaire containing identical questions, members of the experimental group, however, received a reinforcing message using environmental labelling after the first question block, while the control group did not receive any messages.

At the beginning of the questionnaire, respondents were asked about their habits regarding purchasing domestic products and energy conservation. Since only the preference for domestic products is relevant for target group formation (as previously outlined), we aimed to ensure that as many participants as possible encountered a message related to this. Participants in the experimental group who showed some preference for domestic products thus received a message related to purchasing domestic products, regardless of their responses to the energy conservation question. Respondents who did not prefer domestic products but showed some attention to energy conservation received a message related to energy conservation. Those who neither preferred domestic products nor practised energy conservation did not receive any message. It is important to note that each respondent saw at most one message. Respondents in the control group, of course, did not receive any message.

Participants (n = 30) who exhibited neither energy conservation nor a preference for domestic products were excluded from the experimental design, as these 'extremely indifferent' responses would have biased the results and artificially increased the differences between the experimental and control groups. Therefore, a total of 30 (4.49%) participants were excluded from the experimental design, and the hypotheses related to environmental labelling were tested on a final sample of 638 participants: 306 (45.81%) in the control group and 332 (49.70%) in the experimental group.

The labelling messages used in the experimental condition were adapted from the intervention messages developed by Lacasse (2016) with modifications to align with the Hungarian socio-cultural context and the specific behaviours examined. The messages were as follows:

> Message A – Domestic product preference condition
> It seems that buying domestic products is important to you. By doing so, you not only support the Hungarian economy and local producers, but also contribute to reducing environmental pollution through shorter transportation routes.

> Message B – Energy conservation condition
> It seems that saving energy is important to you. This not only helps reduce your utility costs, but also contributes to protecting the environment.

Sample

A total of 680 participants completed the questionnaire. Due to high scores on the social desirability scale, the responses of an additional 12 participants had to be removed from the database, leaving a final sample of 668 for the analysis. As detailed in the 'Experimental Design' section, 30 participants were excluded from the experimental comparison. The control group consisted of 306 participants, while the experimental group included 332 participants. Beyond the hypothesis tests comparing the control and experimental groups, the responses of these 30 excluded participants were also considered in the remaining parts of the analysis.

The demographic characteristics of the sample are presented in detail in Table 1. The average age of respondents in the total sample was 40.74 years (SD: 15.96; min.: 18 years; max.: 88 years), and this did not differ significantly between the control group (M = 41.26 years; SD: 15.57; min.: 18 years; max.: 79 years) and the experimental group (M = 41.06 years; SD: 16.20; min.: 18 years; max.: 88 years).

Table 1:
Demographic characteristics of the sample

	Total sample		Control group		Experimental group	
	%	N	%	N	%	N
Total	100	668	100	306	100	332
Gender						
Male	43.11	288	45.10	138	40.06	133
Female	56.89	380	54.90	168	59.94	199
No answer	0.60	4	0.00	0	0.60	2
Age categories						
18–24	26.50	177	23.86	73	25.90	86
25–34	12.72	85	13.73	42	12.35	41
35–44	13.62	91	12.75	39	14.76	52
45–54	28.89	193	32.35	99	27.71	94
55+	18.11	121	17.32	53	18.98	68
No answer	0.15	1	0.00	0	0.30	1
Region						
Transdanubia	25.45	170	24.51	75	27.11	90
Great Plain and North	29.79	199	32.68	100	28.01	99
Central Hungary	42.96	287	41.18	126	43.37	161
No answer	1.80	12	1.63	5	1.51	5
Education						
8 years or less	3.89	26	2.61	8	5.12	18
Vocational school	9.43	63	10.13	31	8.73	32
High school	34.73	232	36.27	114	33.13	118
University studies in progress	16.92	113	16.34	51	15.66	62
University degree	32.34	216	31.37	99	35.24	117
No answer	2.69	18	3.27	10	2.11	7

Source: Compiled by the authors.

The respondents' ideological self-identification is summarised in Table 2. A total of 39% of respondents identified as having a liberal orientation, while 25% considered themselves conservative, indicating a significant overrepresentation of individuals with a liberal worldview within the sample.

In summary we can conclude that despite the non-probabilistic snowball sampling method, the sample is balanced and diverse. However, it is important to note that young people, women, university students and graduates, residents of Budapest, and individuals with a more liberal orientation are overrepresented in the sample compared to their national proportions, which reduces the generalisability of the results. We have to add that the survey was conducted before the formation of the Tisza Party, which has since become the leading opposition force.

Table 2:
Ideological and political characteristics of the sample

	Total sample		**Control group**		**Experimental group**	
	%	**N**	**%**	**N**	**%**	**N**
Total	100	668	100	306	100	332
Ideological self-identification						
Conservative	25.00	141	26.69	67	24.57	71
Centrist/neutral	36.17	204	39.44	99	32.87	95
Liberal	38.83	219	33.86	85	42.56	123
No answer	15.57	104	17.97	55	12.95	43
Party preference						
Fidesz-KDNP	14.67	98	16.01	49	13.55	45
Opposition coalition parties	8.23	55	7.84	24	9.04	30
Magyar Kétfarkú Kutya Párt	7.19	48	5.88	18	8.43	28
Mi Hazánk Mozgalom	2.69	18	3.92	12	1.81	6
Other parties	1.35	9	1.63	5	0.90	3
Undecided	33.08	221	31.37	96	35.24	117
No answer / would not vote	32.78	219	33.33	102	31.02	103

Source: Compiled by the authors.

In terms of demographic factors, the composition of the experimental and control groups is balanced. Although individuals with a liberal ideological orientation are slightly more prevalent in the experimental group, the difference in party preference is not significant.

Instruments

Domestic product preference and energy conservation

At the beginning of the questionnaire, respondents were asked about their habits regarding domestic product preference and energy conservation using 4-point Likert scales. Those participants who indicated any frequency of domestic product preference or who at least generally pay attention to energy conservation were asked an open-ended question about their reasons for doing so.

Environmental attitude questionnaire

To assess participants' environmental attitudes, we used the short version of the 'Environmental Attitude Questionnaire' developed by Milfont and Duckitt (2010), who based their approach on a two-dimensional model of environmental attitudes: the 'Conservation' dimension reflects classic ecological, environmentally conscious beliefs; the 'Utilisation' dimension represents an economic, instrumental approach, largely opposed to the former (Milfont & Duckitt, 2010; Wiseman & Bogner, 2003). According to this research, the two higher-order dimensions can be divided into 12 first-order factors or subscales. From the original 120-item questionnaire, Sutton & Gyuris (2015) developed a shortened 37-item version. The results showed that the 37-item shortened version is a reliable and valid measurement tool (Sutton & Gyuris, 2015).

In this research, we used 10 of the 12 subscales that were relevant to the research objectives. The subscales used were as follows: 'enjoyment of nature', 'support of conservation policies', 'environmental activism', 'anthropocentric concern', 'personal conservation behaviour', 'ecocentrism', 'anthropocentrism', 'confidence in science and technology', 'human dominance over nature' and 'human utilisation of nature'. Thus, a 10-subscale, 30-item questionnaire was administered.

The items used in the research were translated into Hungarian using and supplementing the translation applied by Dóra Medvés (2012). The Hungarian version we translated was back-translated into English by an independent professional translator, who compared it with the original English questionnaire and confirmed that the two versions were equivalent in content, making the questionnaire applicable.

Since the original factor structure of the questionnaire has not been validated on a Hungarian sample, we used principal component analysis to explore the interrelations and structure of the questionnaire items in the study's sample. The resulting five subscales and their reliability indicators are summarised in Table 3. As the Cronbach's alpha values for all five components are higher than 0.70, the reliability of the subscales can be considered satisfactory.

Table 3:
Reliability indicators of the subscales
of the shortened 'Environmental Attitude Questionnaire'

Subscales after principal component analysis	Number of items	Cronbach's alpha
1. Preservation	11	0.84
2. Utilisation	10	0.73
3. Environmental activism	3	0.76
4. Confidence in science and technology	3	0.85
5. Enjoyment of nature	3	0.79

Source: Compiled by the authors.

Social desirability scale

The social desirability effect refers to respondents' tendency to give more socially acceptable answers or to hide negative traits in order to present themselves in a better light (Milfont, 2009). To mitigate this bias, we included three statements measuring social desirability within the Environmental Attitude Questionnaire (e.g. 'I have never lied in my life'). These statements were selected from the social desirability subscale of the 'Need for Closure Questionnaire', developed by Webster and Kruglanski (1994) and translated by Csanádi, Harsányi and Szabó (2009). Respondents who scored 18 or more points out of a possible 21 were excluded from the study.

Other environment-related questions

In addition to the complex and differentiated 'Environmental Attitude Questionnaire', we wanted to include simpler, more direct questions to assess the sample's attitudes towards environmental protection. For this purpose, we adapted two general questions using five-point Likert scales from a sociological research (Schneider & Medgyesi, 2020). One question addressed concerns about environmental issues, while the other assessed the perceived importance of climate change.

Pro-environmental behaviour and behavioural intent scales

To measure pro-environmental behaviour and behavioural intent, we developed our own tools, drawing on two existing scales: Kaiser and Wilson's (2004) General Ecological Behaviour Scale and Milfont and Duckitt's (2004) Ecological Behaviour Scale. Based on the findings of our qualitative preliminary research (Fekete, 2022a), we selected 18 pro-environmental activities across the domains of energy saving, environmentally conscious consumer behaviour, waste management/reduction and volunteering in environmental activities. Respondents were asked to indicate the frequency with which they engaged in each activity on a five-point Likert scale (1 = never, 5 = very often).

In addition to asking about the pro-environmental behaviours, respondents were asked how likely it was they would engage more frequently in the actions listed on the 'Pro-environmental Behaviour Scale' in the future. A five-point Likert scale was used (1 = 'not likely at all' and 5 = 'very likely).

Results

Hypotheses related to the environmental labelling method

Since the variables examined did not follow a normal distribution, we used the non-parametric Mann–Whitney test to test the hypotheses. Results are summarised in Table 4.

Table 4:
Results of hypothesis testing for the Environmental Labelling Method
*(*significant difference at the 0.05 level)*

		Mann–Whitney U	Z	Effect size
Environmental Attitude Questionnaire – Preservation Dimension	Preservation subscale	45,603	–2.23*	–0.09
	Environmental activism subscale	47,823	–1.28	–0.05
	Enjoyment of nature subscale	49,374	–0.63	–0.02
Environmental Attitude Questionnaire – Utilisation Dimension	Utilisation subscale	46,408	–1.89	–0.07
	Confidence in science and technology	46,403	–1.89	–0.07
Other Environmental Questions	Environmental concern	43,918	–3.11*	0.12
	Importance of climate change	46,032	–2.24*	0.09
Pro-environmental Behavioural Intention Scale		50,529	–0.12	0.00

Source: Compiled by the authors.

The first hypothesis (H1) proposed that environmental labelling would lead to stronger conservation-related attitudes and weaker utilisation-related attitudes in the labelled group compared to the non-labelled group. This hypothesis was only partially supported. The labelled group scored significantly higher than the control group on the 'Conservation subscale' ($U = 45{,}603$; $Z = -2.23$; $p = 0.03$), although the effect size was weak ($r = -0.09$). In contrast, there was no significant difference between the groups on the 'Environmental activism' ($U = 47{,}823$; $Z = -1.28$; $p = 0.20$) or 'Love of nature' ($U = 49{,}374$; $Z = -0.63$; $p = 0.53$) subscales. Similarly, while the labelled group scored lower on the 'Utilisation' ($U = 46{,}408$; $Z = -1.89$; $p = 0.06$) and 'Confidence in science and technology' ($U = 46{,}403$; $Z = -1.89$; $p = 0.06$) subscales, these differences were not significant, indicating that this hypothesis was only partially supported.

The second (H2) hypothesis was supported as the labelled experimental group expressed significantly greater concern for environmental issues ($U = 43{,}918$; $Z = -3.11$; $p = 0.00$; $r = 0.12$) and considered climate change to be a more important issue ($U = 46{,}032$; $Z = -2.24$; $p = 0.03$; $r = 0.09$) than the control group. However, the strength of the difference was weak in both cases.

The third hypothesis (H3) was not supported, as there was no significant difference in pro-environmental behavioural intentions between the labelled and non-labelled groups ($U = 50{,}529$; $Z = -0.12$; $p = 0.91$).

Hypotheses related to ideological orientation and party preference

To test the hypothesis related to ideological orientation, we used the non-parametric Spearman correlation calculation, results shown in Table 5.

The hypothesis related to ideological self-identification was confirmed (H4), as conservative ideological orientation was found to significantly negatively correlate with attitudes towards environmental conservation ($r = -0.17$; $p = 0.00$), while showing a significant positive correlation with attitudes towards environmental utilisation ($r = 0.24$; $p = 0.00$) and domestic product preference ($r = 0.21$; $p = 0.00$). In all cases, the correlations were weak in strength.

Table 5:
*Results of correlation analyses with conservative self-identification (*significant correlation at the 0.05 level)*

	r (Spearman correlation coefficient)
Environmental Attitude Questionnaire – Preservation Subscale	−0.17**
Environmental Attitude Questionnaire – Utilisation Subscale	0.24**
Domestic Product Preference Scale	0.21**

Source: Compiled by the authors.

For the hypothesis related to party preference, to ensure a sufficient sample size for group comparisons, we combined voters of smaller parties into two groups. The 'right-wing party voters' group included supporters of Fidesz-KDNP [Hungarian Civic Alliance – Christian Democratic Nationalist Party] and the Mi Hazánk Mozgalom [Our Homeland Movement], while the 'left-wing-liberal party voters' group consisted of supporters of the parties running on the joint opposition list in the 2022 election and the Magyar Kétfarkú Kutyapárt [Hungarian Two-Tailed Dog Party]. The non-parametric Mann–Whitney test was used to compare differences between the two groups, with the results summarised in Table 6.

Table 6:
Results of hypothesis testing based on party preference

	Mann–Whitney U	**Z**	**Effect size**
Environmental Attitude Questionnaire – Preservation Subscale	4,138	−3.93**	−0.27
Environmental Attitude Questionnaire – Utilisation Subscale	3,377	−5.55**	−0.38
Domestic Product Preference Scale	4,150	−4.15**	−0.28

Source: Compiled by the authors.

The hypothesis related to party preference (H5) was also confirmed, as right-wing party voters scored significantly lower on the 'Conservation' subscale ($U = 4{,}138$; $Z = -3.93$; $p = 0.00$; $r = -0.27$) and significantly higher on the 'Utilisation' subscale ($U = 3{,}377$; $Z = -5.55$; $p = 0.00$; $r = -0.38$) and the Domestic Product Preference Scale ($U = 4{,}150$; $Z = -4.15$; $p = 0.00$; $r = -0.28$) than left-wing-liberal party voters.

In summary, we can conclude that conservative ideological orientation and right-wing party preference were negatively associated with attitudes towards environmental conservation, while showing a positive relationship with attitudes towards environmental utilisation and domestic product preference.

Cluster analysis

To identify more specifically the potential target group for environmental labelling based on domestic product preference, we conducted a hierarchical cluster using the so-called Ward method. The analysis included the scales measuring domestic product preference and energy conservation, the subscales of the shortened Environmental Attitude Questionnaire, the Pro-Environmental Behaviour Scale, as well as relevant demographic and ideological variables. Several respondents who did not provide answers to the demographic and ideological questions could not be included in the cluster analysis. Consequently, the cluster analysis was performed on a sample of 563 individuals. After examining the dendrogram and analysing different cluster solutions, we decided on a four-cluster solution. The distribution of respondents among the four clusters is shown in Figure 1.

The first cluster was named the Eco-Conscious Group, as the respondents in this cluster stood out in both their environmental attitudes and their pro-environmental behaviours.

In terms of demographic composition, this segment is overrepresented by middle-aged individuals (72% are over 45 years old), women (68%), those with a university degree or currently pursuing university studies (61%), and those living in at least average financial

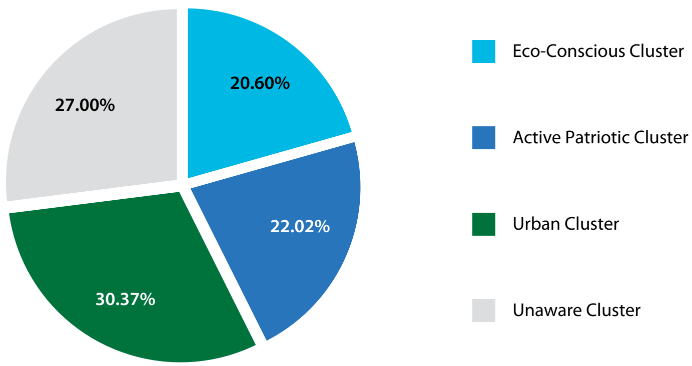

Figure 1:
Distribution of clusters within the sample

Note: The basis of the research are respondents who provided valid answers to all questions used, n = 563.

Source: Compiled by the authors.

circumstances (46%). Ideologically, the majority are liberal (49%). Interestingly, this is less reflected in party preference, as while Fidesz-KDNP voters are underrepresented compared to the full sample (9%), support for opposition parties is also low (6%). This is the smallest cluster, comprising 21% of the respondents included in the analysis.

The second cluster was labelled the Active Patriotic Group, characterised by strong domestic product preference alongside moderate environmental commitment. Buying domestic products and reducing consumption is more typical in this cluster than average, while activities like cycling or reducing meat consumption are less common. Middle-aged and older individuals (especially those over 55, who make up 29%) are overrepresented in this cluster, as are men (59%), those living outside Budapest or Pest County (82%), and those with lower educational attainment (56%). Over half of the group identify as conservative (52%) and religious (57%), which marks a significant difference compared to the other clusters. Accordingly, right-wing parties, such as Fidesz-KDNP (29%) and Mi Hazánk Mozgalom (6%), are overrepresented in this segment. This cluster comprises 22% of the sample.

The third cluster was named the Urban Group, as the proportion of Budapest residents is by far the highest here (43%), and urban pro-environmental activities, such as cycling, reducing meat consumption and buying second-hand clothes, are the most popular. This segment is almost the perfect inverse of the Active Patriotic cluster. Respondents scored above average on the subscales measuring ecological thinking and below average on the subscales that relativise the importance of environmental protection. Respondents in this cluster also scored high on most behaviour-related subscales, except for domestic product preference, reducing consumption, and composting, which is less compatible with urban living. In the Urban cluster, young people (especially those aged 18–24, who make up 39%), women (70%), Budapest and Pest County residents (58%), those with university degrees or currently studying at university (62%), and those living in above-average financial conditions (58%) are overrepresented. The majority of the group are liberal (55%) and non-religious (68%). Opposition parties (19%) and the Kétfarkú Kutyapárt (Hungarian Two-Tailed Dog Party) (12%) enjoy significantly higher support in this cluster. This is the largest cluster, comprising 30% of the sample.

The fourth cluster, called the Unaware Group, is the easiest to describe. Respondents in this group scored significantly below average on both the attitude subscales reflecting ecological thinking and all pro-environmental behaviour subscales. Young people (especially those aged 18–24, who make up 41%) and Budapest or Pest County residents are also overrepresented in this cluster. However, unlike the Urban segment, men (55%) and those with lower educational attainment (58%) are in the majority here. In terms of ideological self-identification, the group positions itself more towards the centre compared to the full sample. In terms of party preference, the group is mixed, with both Fidesz-KDNP (22%) and the Kétfarkú Kutyapárt (10%) enjoying higher support than in the full sample. The Unaware cluster is the second largest, comprising 27% of the sample.

It should also be noted that, due to the non-representative nature of the sample, the validity of the target group segmentation results may be limited, and further research is needed to confirm these findings.

Discussion

Two main objectives were defined before the research was conducted. First, to test the tool of environmental labelling on a Hungarian sample in the contexts of domestic product consumption and energy conservation. Second, to identify social segments that could serve as the target audience for environmental labelling focusing on domestic product consumption.

The findings confirmed the relevance of the two selected activities. According to self-reported data, more than 90% of respondents generally pay attention to energy conservation, while more than 70% favour domestic products to some extent. These results align with previous empirical research in the field (Hámori & Horváth, 2009; Magyar Termék Nonprofit Kft., 2017; Varga et al., 2024). The open-ended questions supported the assumptions from both the literature (Malota, 2003; Schäfferné, 2007; Stanley & Lasonde, 1996) and the preliminary research (Fekete, 2022b), suggesting that these activities are primarily motivated by factors other than environmental protection. Nearly 70% of respondents who paid attention to energy conservation stated that financial savings are their primary motivation for rationalising energy consumption, while only slightly more than one-third mentioned environmental considerations. The connection between domestic product preference and sustainability appeared even weaker, as only one-tenth (11%) of those who favoured domestic products mentioned environmental protection as a reason for their purchasing habits. In summary, we can conclude that the quantitative research results confirmed the assumption that energy conservation and domestic product consumption are widespread in Hungarian society, but in most cases, they are not driven by environmental considerations. As a result, both activities are suitable as the basis for the communication tool of environmental labelling.

Regarding the main research questions, it is noteworthy that the hypotheses regarding the effectiveness of the communication tool were only partially confirmed. The messages containing labelling, although only to a small degree, statistically significantly strengthened the ecological thinking-related attitudes, environmental concerns and perceived relevance of climate change among the experimental group, but they had no effect on pro-environmental behavioural intentions. It is important to emphasise that the observed changes in attitudes were associated with only weak effect sizes, which suggests that the immediate practical impact of the intervention is limited. These findings highlight the need for caution when interpreting the results and underscore the importance of further research to explore how such messages might influence behaviour under different conditions. However, findings from environmental psychology and behavioural science provide several indications that support the assumption that this method may prove more effective in everyday contexts.

Previous research on the effect of environmental labelling on pro-environmental behavioural intentions has yielded mixed results. Some studies have shown that similar experimental manipulations significantly increased the likelihood of pro-environmental behaviour (Cornelissen et al., 2008), while other studies, like the present research, were unable to clearly demonstrate the effect of labelling on behaviour (Eby et al., 2019), or only did so when the cognitive capacity of the participants was overloaded with other tasks (Cornelissen et al., 2007). The literature suggests that the moderate effectiveness of the tool can be explained by the fact that, in the absence of an explicit cognitive distraction task, the participants systematically processed the message, interpreting it as a manipulation attempt, which neutralised the effectiveness of the labelling. Since in everyday life, people's mental capacity is highly overloaded, it is reasonable to assume that this negative effect would not or only minimally occur in practical applications (Cornelissen et al., 2007; Kahneman, 2012). Furthermore, research on positive spillover suggests that self-perception of past activities (or in this case, labelling) first impacts attitudes and identity. Several researchers speculate that over time, attitudes strengthened by labelling in practical situations may also lead to behaviour change (Poortinga et al., 2013; Truelove et al., 2014; van der Werff et al., 2013). Moreover, based on classical findings in persuasion research, we can assume that the effectiveness of the tool would be significantly enhanced if the stimulus were presented more frequently and in a more visual form, as familiar stimuli are processed more easily and automatically, and positive feelings are associated with them, which increases their persuasive power (Petty & Cacioppo, 1986; Reber et al., 2004; Zajonc, 1968).

The second goal of the research was to identify social groups for whom the method of environmental labelling could be particularly effective and relevant. As with previous studies (Naár, 2022; Schäfferné, 2007; Varga et al., 2024), this research did not identify significant social differences regarding energy conservation, so the focus of target group identification was on domestic product consumption. Consequently, we sought groups that are not dismissive of environmental issues, rather characterised by moderate activity and commitment in this area, as the literature suggests that labelling is most relevant in such cases (Carrico et al., 2015; Eby et al., 2019; van Vugt, 2001). Additionally, these groups needed to favour domestic products, as this is the only way to engage them with the messages used. Consistent with both international and Hungarian research (Cruz, 2017; Dunlap & McCright, 2008; Mónus et al., 2022; Schneider & Medgyesi, 2020; Van Liere & Dunlap, 1980), it appears that individuals with conservative ideological orientations and right-wing party preferences meet these criteria, as they tend to have weaker environmental attitudes and activity, but stronger preferences for domestic products.

To further specify the target group, a hierarchical cluster analysis was conducted, which identified the Active Patriotic segment. This group is not dismissive of environmental issues but has weaker-than-average environmental attitudes. While they exhibit a strong preference for domestic products, they display below-average pro-environmental activity. The demographic and ideological composition of the cluster supports and complements the conclusions drawn from hypothesis testing. The results indicate that the potential target group for environmental labelling related to domestic product consumption is overrepresented by conservative and right-wing individuals, those living in rural areas, men, people over 40, and those with lower educational attainment. Although this cluster comprises just over one-fifth of the sample, it is likely that in a nationally representative sample, the proportion of people with similar attitudes and habits would be much higher.

In summary, the test of environmental labelling in the context of domestic product consumption and energy conservation yielded encouraging results. Although no significant effect was found for pro-environmental behavioural intention, even brief exposure to the messages containing labelling caused statistical changes, albeit weak ones, in environmental attitudes. Previous research has given reason to assume that environmental labelling could prove more effective in everyday contexts. Findings suggest it works better under cognitive load (Cornelissen et al., 2007), and may lead to positive spillover through identity reinforcement (Poortinga et al., 2013; Truelove et al., 2014), and benefits from repeated and emotionally favourable presentation (Petty & Cacioppo, 1986; Zajonc, 1968). All of which suggests that in cognitively demanding real-life situations, environmental labelling, when applied strategically and repeatedly, may contribute to stronger attitudinal change and more consistent pro-environmental behaviour. Although Cornelissen (2007) has already demonstrated that labelling can be more effective under cognitive load, further research is needed to replicate and extend these findings in new behavioural domains and cultural contexts. Testing this effect in the specific field of environmental communication – such as domestic product consumption and energy saving – would provide more targeted insights into the practical applicability of the method.

The social relevance of the communication tool is further amplified by the finding that environmental labelling related to domestic products can effectively engage individuals in sustainability issues, particularly those with only moderate environmental activity, making them worth encouraging further.

As far as the main limitations of the research are concerned, the potential distorting effect of social desirability must be acknowledged, as individuals may present themselves in a more favourable light than in reality (Milfont, 2009). Although respondents who scored extremely high on the social desirability scale embedded in the Environmental Attitude Questionnaire were excluded from the study, it is still possible that this phenomenon may have influenced the results to some extent.

Despite efforts to achieve a larger sample size and a more diverse pool of respondents, the non-probability snowball sampling method means that this sample cannot be considered representative. In the study, which was based on the responses of 668 participants, young people, women, university students and graduates, Budapest residents, and individuals with more liberal views were overrepresented compared to their proportion nationally, which limits the generalisability of the findings. Therefore, to validate and generalise the present findings, future research should be conducted using stratified or nationally representative sampling methods. Moreover, it is worth noting that most previous studies in this field have also relied on non-probabilistic samples (e.g. Cornelissen et al., 2007; Cornelissen et al., 2008; Eby et al., 2019), which makes the use of representative sampling in future research even more essential. In addition, given the absence of prior research on environmental labelling in Central and Eastern Europe, comparative studies across countries in the region would be valuable in identifying cultural and structural similarities or differences that may influence the effectiveness of such communication tools.

Although the size and composition of the experimental and control groups were relatively balanced, the experimental group was slightly larger, and there was a marginally higher proportion of women, university graduates and self-identified liberals, which may have influenced the results.

It is important to highlight that since the data collection, the Hungarian political landscape has radically changed due to the rise of the Tisza Party. Further research is needed to explore the attitudes of this new party's voters.

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