



SOCIAL AND POLITICAL ACTORS IN THE CZECH MEDIA DISCOURSE ON PH.D. – A CONTENT ANALYSIS

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ABSTRACT

Aim/Purpose	This paper presents an in-depth analysis of the media portrayal of Ph.D. programs in the Czech Republic. Specifically, it explores how doctoral study programs, their students, and the Ph.D. degree are represented across various topics and social actors over an 18-month period.
Background	The societal perception of Ph.D. studies, especially at the postgraduate level, is significantly shaped by media representations, including their connections to science, academia, and broader social life. Therefore, it is crucial to investigate the portrayal of the Ph.D. phenomenon in the media. The Czech Republic provides a relevant use case because of Central Eastern European (CEE) settings and amplified media coverage. The main factors are several political and social influences and governmental discussions regarding the legality of and against precarious conditions.
Methodology	This study utilizes a qualitative method of conventional and directed content analysis to thematically categorize a corpus of 456 articles on Czech news platforms. A subset of these articles (thematic cluster about study conditions) undergoes further analysis to identify represented social actors. The results are clustered and interpreted using examples from the dataset. The instances of studied phenomena are quantified to provide an enumerated representation of individual themes and social actors.
Contribution	The author contributes to research on doctoral studies by expanding the existing knowledge through media content analysis within the social constructivist paradigm. Moreover, the CEE region, often overlooked in doctoral studies and science communication research, is highlighted here. Finally, this article enriches the understanding of public relations strategies for higher-education institutions by focusing on earned media channels as opposed to solely owned ones.
Findings	The analysis leads to the determination of 10 thematic clusters that can be succinctly categorized into four main areas: “Ph.D. Title,” “University Life,”

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“Study Conditions,” and “Controversial Issues.” The latter two categories are notably politicized, a fact underscored by the actor analysis, which shows a predominance of political figures in the media coverage. An unexpected result of the research is the significant underrepresentation of student voices in the analyzed sample of media outputs, except for those doctoral students who also hold positions such as student initiative chairs. Additionally, comparing the results to previous research on doctoral studies, it can be argued that many of the critical topics discussed by the research community, such as mental health issues or diversity of the student cohort, are not equally represented in media portrayals.

Recommendations for Practitioners	Practitioners, especially communication professionals from higher education institutions and research centers, can leverage these insights to refine their communication strategy. This can help counterbalance prevailing media narratives and provide a more representative portrayal of study programs, focusing on areas currently underrepresented in media discourse.
Recommendations for Researchers	Researchers from other regions are encouraged to conduct similar studies using the presented framework to map the representation of Ph.D. in respective media outlets. It is advisable to consider the local context in the interpretative phase of the content analysis, as demonstrated in this study.
Impact on Society	The findings elucidate the role of the Ph.D. within the national media landscape of higher education, potentially influencing policymakers, journalists, and science communication professionals to reconsider their approaches to media discourse. Lastly, as hinted above, science communication professionals can benefit from the results in terms of future development of media outreach strategy with a focus on targeted topics.
Future Research	The presented work would benefit from a broader, multinational comparison and also a complementary audience analysis to understand how Ph.D. students and possible applicants interpret these messages and whether they correlate with their attitudes.
Keywords	doctoral degree, content analysis, media representation

INTRODUCTION

Doctoral studies represent the pinnacle of science as it functions as an entry point to the majority of scholarly positions. The societal perception of Ph.D. studies, particularly at the postgraduate level, is largely shaped by media portrayals, which influence perceptions of its connection to science, academia, and other aspects of social life. It is thus vital to address how the phenomenon of “Ph.D.,” i.e., doctoral programs, their students, and the academic degree itself, are depicted in the media narratives.

In the Czech Republic, the Ph.D. programs are predominantly housed within the public university system, which has faced numerous challenges throughout the decades. First, there is a general precarity of workers in academia, including Ph.D. candidates. The continental system of doctoral studies differs from the Anglo-Saxon tradition in terms of funding and also the general approach to Ph.D. students – a phenomenon articulated in one analyzed article (Janda, 2023) that explicitly mentions comparison with Western countries where doctoral students are considered equals as early-career researchers rather than mere students. Second, the Czech Republic has one of the lowest rates of gender diversity among researchers in the European Union, with a notably low ratio of women to men

in research roles (NKC, 2019). These long-debated shortcomings saw a new wave of attention in 2021 when significant political debates started taking place about legal changes regarding doctoral studies, accompanied by numerous protests concerning the precarious conditions of academic workers, including issues such as low wages and scholarships. The beginning of the studied timeframe was synchronized with the establishment of a new office of the Minister of Science. This period of heightened media attention provides a timely context for investigating how Ph.D. studies are represented in the Czech media.

In a sample of 456 news articles, this study analyzes the Czech media landscape for the portrayal of Ph.D. studies over an 18-month period. The findings are interpreted vis-à-vis the context of the national educational system in the Czech Republic, offering insights into the construction of the Ph.D. narrative in a Central Eastern European (CEE) setting, taking into account specific cultural and political factors. The article builds a solid ground for international comparison and creates a methodology replicable in other regions.

The author contributes to research on doctoral studies by expanding the existing knowledge through media theory. Moreover, the CEE context is a fairly understudied region in the research fields of doctoral studies and science communication. By addressing this gap, the study not only aids researchers and practitioners in higher education and research centers in developing effective communication strategies but also supports future doctoral students, stakeholders, politicians, and the broader public.

DOCTORAL PROGRAMS – THE CASE OF THE CZECH REPUBLIC

The Czech Republic's position as a case study is justified by its unique CEE context, ongoing political debates about doctoral studies, the appointment of the new role of the Minister of Science, and the social importance of the topic demonstrated, for example, by the public protests against the precarious conditions faced by academic workers. These events and conditions are outlined below to explain the cultural, political, and professional contexts that contribute to the construction of a Ph.D. in media discourse. Despite this single-country focus, it builds a solid framework for other researchers to replicate this study, including the initial mapping of the context, as shown in this section.

In line with global academic standards, doctoral study programs in the Czech Republic focus on scientific research and independent creative activity in the field of research or development or independent theoretical and creative activity in the field of art. The standard study period is at least three years and, at most, four years. However, Ph.D. students can extend this time up to six years. Extended duration of study or interrupted study is a frequent choice for many students, with a variety of factors contributing to this phenomenon, as will be seen below.

Doctoral study programs, governed by the Higher Education Act (111/1998 § 47), require state accreditation and regular university evaluations by a council established according to the internal regulations of the university or its part. While having a certain degree of autonomy, the university's management is held responsible for the quality of doctoral programs or any wrongdoing. This will be possible to observe in the presented data, where rectors, deans, and other members of university management are significantly represented in the new articles about serious cases of misconduct.

During the data collection phase, a significant legislative proposal aimed at amending the Higher Education Act was introduced and debated among legislators, a development that was mirrored in the media coverage analyzed in this study. The amendment's explanatory report (issued by the Czech Government (Vláda ČR), 2020) notes that in the Czech system of doctoral study, there is an above-average number of students, and the number of graduates in the standard period of study is very low. Due to its detailed evaluation of the current state of doctoral studies in the country, the report serves as a valuable reference point for defining the context of the presented research. It is this amendment that drives the majority of the analyzed articles covering the financial conditions of doctoral students despite it being a long-term problem that many students themselves address informally, on social me-

dia (as the authors observed), and in some of the news items. Coincidentally, institutional actors rather than individuals from the student body are dominant speakers on this matter in the provided data sample.

Financial aspects of doctoral studies

Funding from the Ministry of Education, Youth, and Sports constitutes a primary source for scholarships, which are often the sole means of financial support for Ph.D. candidates in many programs. This reliance on a single funding source inevitably leads to limitations in scholarship availability and amount, which is further compounded by the lack of legal stipulations regarding minimum scholarship levels. Some departments, especially in STEM fields, support their students with additional funding in the form of working contracts, research grants, and other financial incentives. Nationwide statistics on this issue are not available, and the previous description was drawn from the author's observations and long-term involvement in the field.

The following data are derived from the national statistics provided by the Ministry of Education, Youth and Sports (2022a). As of December 2022, there are 14,794 Ph.D. students currently enrolled in full-time doctoral programs across Czech universities (and an additional 5,763 in the distant form, which will not be included in the following statistics to keep its conciseness). To put these numbers into perspective, 2,861 students were newly enrolled that academic year and 4,479 were non-Czech nationals (considered international students). Only 22 doctoral students of the total number are affiliated with private schools, which illustrates the dominance of the public-school system over private universities in the Czech Republic.

Despite the tuition-free nature of doctoral programs conducted in Czech, the overall financial conditions are deemed very problematic. The insufficient scholarship and limited funding opportunities, especially in the field of humanities and social sciences, pose a significant threat, as documented below. This concern is also voiced in the above-mentioned explanatory report (Czech Government (Vláda ČR), 2020) claiming that the current amount of financial support is insufficient because it does not sufficiently cover the living costs of doctoral students, forcing many to juggle their academic responsibilities with financial survival.

The financial strain on doctoral students is part of a broader issue affecting academic staff, including those who are simultaneously pursuing doctoral studies. At the beginning of 2022, an initiative titled *Hodina pravdy (The Hour of Truth)* was formed to address these concerns. Teachers, as well as students of all levels, joined the protests and other activities. In their official manifesto, authors advocated for “dignified conditions for university teaching of the humanities and social sciences” (The Hour of Truth, 2023). They argued that the basic salary of university teachers in the humanities does not even reach the minimum decent wage. As their official statement claims, the share of expenditure on higher education in relation to GDP is below the average of OECD countries.

As our findings show, the initiative against precarious conditions of academic workers gained significant media coverage during its most active months. Despite their excessive promotion of the manifested values, it did not facilitate a further debate based on the presented data analysis of media discourse. Some articles, however, tackle the financial issue and analyze it in more depth due to their significance and undoubted impact on the students' lives.

Beyond financial concerns, the study conditions within Czech doctoral programs – encompassing official requirements, industry collaborations, study plan flexibility, and contractual arrangements – represent another critical area of analysis. Describing the whole structure of doctoral study plans is not in the scope of this work. However, industrial Ph.D. is elaborated on in detail in the findings section because it was one of the largest thematic clusters.

Gender diversity in academia

Of the currently enrolled doctoral students, 6,987 (47%) are women. Despite women constituting a majority (58%) of Master's program graduates, their representation dramatically decreases in doctoral

programs and further diminishes in senior academic roles. This phenomenon, which became known as a “leaky pipeline,” is particularly pronounced in STEM fields (Waldrop, 2015). The stark disparity is underscored by statistics indicating that the Czech Republic has the lowest percentage of female researchers among all EU member states, with only 27.2% of research positions occupied by women (NKC, 2019).

The media’s portrayal of doctoral programs is crucial for understanding and addressing the barriers that contribute to the gender diversity and equality imbalance. Some articles in this study tackle gender equality, but compared to how critical the numbers are for the Czech Republic, they only cover a very limited part of the challenges. The most discussed issue is maternity leave during the course of a Ph.D., which is mentioned as part of a larger parenting topic, mostly the parental leave itself.

The role of supervisors

Studies in the Czech doctoral program take place according to an individual study plan under the guidance of a supervisor. The professional relationship between students and their supervisors has been vastly discussed as a critical component of doctoral studies (Eley, 2005; Liang et al., 2021; Wang et al., 2022). In light of an increasing number of reported cases of harassment worldwide, the power dynamics of the professor-student relationship became the attention of the media as well as researchers. As later shown in the data, the media representation of this tension is hardly on par.

THEORETICAL BASE

MEDIATIZED CONSTRUCTION OF REALITY

Following the theoretical framework of social constructionism introduced by Berger and Luckmann (1966), this study approaches communication – or mass media as was documented by Adoni and Mane (1984) – as one of the driving forces behind the construction of public concepts, beliefs, norms, and values. Our understanding of academia thus stems not only from the official information provided by academic institutions but also from the shared idea of what the world of science looks like. Such an idea, although locally diverse, is fueled immensely by the content transmitted via newspapers and other communication practices.

Couldry and Hepp (2013) theorized this as the concept of *mediatization*, which describes a process in which media shapes other sectors of society, including science and education. They continued this argument by defining the world as a “communicative construction” (Couldry & Hepp, 2016, p. 11) that is facilitated by the media. According to them, four waves of mediatization – media’s key role in forming social systems – have occurred in our civilization over the past six centuries in this order: mechanization, electrification, digitalization, and datafication. These mediating forces are the key focus of their theory. The process itself is not in the scope of the presented research. However, Couldry and Hepp’s (2013, 2016) arguments provide a solid base illustrating the importance of the analyzed topic – the mediatized construction of doctoral programs, the students, and the degree itself.

LITERATURE REVIEW

Mediatization of higher education

Numerous publications tackle the issue of mediatization, particularly the media’s influence on various sectors of society, including academia and, more specifically, higher education. To illustrate the breadth of this research area, the current review offers an overview of several clusters within the topic: mediatization’s impact on educational processes and learning in classrooms, the role of university rankings, and shifts in the audience’s attitudes towards higher education institutions.

Marci-Boehncke and Rath (2020) explore the paradigm shift in education caused by digital culture and the inaccessibility of special educational language. Linguistic barriers and innovation that media-influenced learning can bring to the classroom are also discussed in the research by AlAhmad and

Kukali (2023). They advocate for new technologies that can efficiently foster the cognitive, behavioral, and pedagogical dimensions of teaching and learning, especially in classrooms with students from diverse backgrounds. The strong mediatization of education is examined by Kerimov et al. (2022), who provide an overview of how information technology facilitates a modern approach to teaching and the possibilities of distance learning. However, they also caution against the total digitalization of education, which can have adverse effects, such as impeding student socialization. A specific cluster of research publications focuses on the role of social media in classroom learning – for reference, see the literature review by Tess (2013). Although the studies mentioned document interest in the mediatization of higher education institutions, they do not explore mass media to the same extent as the present article.

In the context of growing marketization and globalization of education, Stack (2013, 2016) extensively examines the global university rankings and their role in the mediatization of higher education. In her many studies, Stack highlights the growing impact of these rankings on higher education policies and their use as a proxy for excellence, similar to a school's pride in its Nobel prize laureates. Scott (2013) also emphasizes the escalating importance of university rankings over the past thirty years. The representation of these evaluations in the media resulted in intensified hierarchization of universities based on performance, often overlooking other crucial aspects of education and its quality. Similarly to Stack (2016, 2013), Scott interprets these outcomes in the context of marketization and globalization of universities, with an additional focus on institutional elites.

Other authors delve into the policy-making aspects of university mediatization, such as policies influenced by the knowledge economy discourse (Rawolle, 2005) or university governance, as in the work of Cabalin-Quijada (2015) and Wilkins and Olmedo (2018), who analyze the phenomena in Chile and Australia, respectively. The Chilean example is analyzed in several publications, but the educational landscape differs significantly from that of the Czech Republic – the system is highly market-oriented and affected by neo-liberal agendas in educational reforms (Rawolle, 2005, p. 160). However, it is important to note that these systemic changes in educational policies in Chile were partly driven by media coverage of student demands, which is highly relevant in the Czech context, given recent protests and political discussions.

On the public perception side, Kim et al. (2007) investigate the effects of articles in local newspapers on the residents of a small university town and their views of the university's image following exposure to negative publicity. They conclude that higher exposure to unfavorable articles resulted in lower perceived reputation and trust in the institution (Kim et al., 2007, p. 233). They note that while similar effects have been documented for businesses, less attention is paid to the impact of publicity on higher education institutions. Faraoni et al. (2024) build on the previous study by exploring the reputation of Spanish public universities and recommend ways institutions can leverage mediatization effects using various kinds of media for brand-building. While the current study does not specifically explore media effects on its audience per se, the aforementioned articles prove relevant due to their focus on negative publicity, which aligns with the data presented here. These studies, in general, illustrate the strong connection between news coverage and readers' attitudes toward higher education institutions, echoing Coudry and Hepp's (2013, 2016) mediatization theory.

Doctoral studies

The course of doctoral programs as well as other issues related to Ph.D. are extensively researched, as repeatedly shown in the *International Journal of Doctoral Studies* and other publications dedicated to scholarship on education, publishing, research management, and academia in general. Jones (2013) offers a comprehensive analysis of the dominant themes over the journal's 40-year publishing activity, identifying the following clusters as the key topics of the scholarly discussion: teaching, doctoral program design, writing and research, employment and career prospects, student-supervisor relationship, and the doctoral student experience. The angle of media studies is not represented at large – a gap this research aims to fill.

The Ph.D. experience

The Ph.D. experience is often scrutinized for its mental, physiological, motivational, and social experiences of Ph.D. students (Sverdlik et al., 2018). Others try to determine which factors affect this experience, such as family (Breitenbach et al., 2019) or technology (Djohy, 2019). Many scholars research identity construction (Baráková, 2021; Choi et al., 2021; Xu & Hjalmarson, 2022). Some others analyze the study conditions and personal development opportunities in the Czech context, e.g., Kledrowetzová (2023). The concept of well-being pervades in a number of these publications, reflecting survey results that 25% of students at Charles University, the largest Czech higher education institution, suffer from anxiety and signs of depression (Pásztor, 2021), a situation exacerbated by the COVID crisis (Bečvářová, 2020).

Similar research is vital for understanding doctoral students' mental health, personal development, and career choices post-graduation. Nevertheless, authors typically do not look at the elements that affect people's decision to apply for a Ph.D. in the first place. If anything, researchers tend to focus on future prospects after graduation or reasons to drop out of doctoral programs, as explored by Janštová (2021) in the Czech context.

To illustrate this trend, no relevant articles can be found under the search query for enrollment/admissions/applications in the above-mentioned *International Journal of Doctoral Studies*. One study examines diversity in recruitment (Griffin & Muniz, 2015), focusing on the process itself rather than the candidates' perceptions. Understanding attitudes towards Ph.D. programs outside the academic community (i.e., among potential students or important stakeholders) requires considering the public image of Ph.D. programs as portrayed in the media, an essential component of the broader attitudinal mosaic, as was stated in the preceding section on the construction of reality.

Communication of higher-education institutions

Only a handful of publications focused on media content related to Ph.D. programs, and those that do often have limitations in the scope of their work in the context of the presented article. Below are examples of different research approaches closely aligned with the topic in terms of context and methodology. The common limitation is that all are concerned with the visual representation of higher education in general, not specifically a doctorate. Still, they provide a valuable contribution to this debate.

A key study in the context of the presented work is conducted by Fürst et al. (2021), who maps the news coverage of Swiss higher education institutions. Building on the aforementioned critical role of media in forming public opinion, their study mentions the expanding media efforts of these institutions as symptomatic of the growing need for societal legitimation of these institutions (Fürst et al., 2021, p. 3600).

In terms of sampling, Fürst et al.'s (2021) analysis targets articles mentioning specific universities as opposed to the current study, which includes all news articles referencing Ph.D. programs (most of the time, this is also connected to concrete institutions but could also include articles about doctoral studies or students in general without ties to a specific organization). In the introduction, Fürst et al.'s study references the call for an organizational turn in the research field of science communication, initially proposed by Schäfer and Fähnrich (2020), who hope to encourage more research investigating media representations of scientific organizations. The current study responds to this call to some extent.

Fürst et al.'s (2021, 3603) findings suggest that “[media] coverage is shaped by HEIs’ [higher education institutions] proactive, strategic communication, indicating a strong influence of organizational communication.” This observation is crucial in the context of the media’s role in shaping public attitudes. Universities are thus encouraged to engage in public discourse by developing strong media relations and shaping the image of higher education institutions in media. Mapping the current media

landscape is a valuable step in designing effective communication strategies, enabling university press offices to understand their starting position and control the narrative through content analysis.

Academia and pop culture

A special category of media analysis about Ph.D. studies (or academia more broadly) is one that looks at fictional entertainment. This approach is exemplified by Tobolowsky and Reynolds (2017), who examine films set in university environments. This approach complements news coverage analysis and the case study. Films can challenge or reinforce existing stereotypes, such as access to academia reserved only for privileged individuals. Their findings suggest that many films depict higher education institutions negatively, and scholarly endeavors of any kind are often condemned (Tobolowsky & Reynolds, 2017, p. 194).

The portrayal of universities in films, even when the academic setting serves only as a backdrop to the main narrative, forms our understanding of academic spaces and their societal roles (Tobolowsky & Reynolds, 2017, p. 179). Therefore, it is advised to include these when pursuing a complex analysis of the media representation. As the authors point out, however, a fictional depiction of higher education has still been largely unexamined. Echoing the mediated construction of reality covered earlier, the authors point out that the public and even legislatures will have to respond to these “media-induced expectations” (Tobolowsky & Reynolds, 2017, p. 195).

Ph.D. and memes

The final media type that will be introduced here briefly to show the range of analytical approaches to studying Ph.D. representation is memes. Papapicco and Mininni (2020) analyze Ph.D. memes as part of the user-generated content on Facebook and Instagram. They focus on rhetorical aspects based on linguistic and visual elements and their construction of humor. Similarly, Maples (2023) drew attention to the popular site *High-impact Ph.D. memes* that produce content related to the struggles of doctoral life. Notably, their content analysis shows that most memes address serious issues associated with Ph.D. studies and remind us that memes can function as a subject of coping mechanism.

According to Maples (2023), the topics that highly resonate with the audience are issues of access to literature, financial and employment stresses, and overwork. Advisor relationships and the publishing process, though frequent, elicit less interaction (Maples, 2023, p. 16). Despite not being the same media type as news coverage, research like the one from Maples enlightens our understanding of a more authentic Ph.D. experience. As findings in the current paper illustrate, these issues resonating within the community are not equally represented in the Czech media.

METHODOLOGY

The aim of the current study is to understand how Ph.D. programs are represented in the Czech media, focusing specifically on the topics covered and the social actors involved. It utilizes qualitative content analysis to address the research questions, offering a quantified depiction of the individual themes and social actors identified. This methodological framework fits the social constructivist approach, emphasizing the importance of understanding interactions among individuals and the media’s role in shaping perceptions of the Ph.D.

RQ1: What topics are present in the news coverage of Ph.D. programs in the Czech media, and what are their quantified representation?

RQ2: Which social actors are featured in the sample, and which are granted a voice through direct speech?

RQ3: To what extent do Ph.D. students’ voices contribute to the construction of Czech media discourse on Ph.D. programs?

The methodological framework is crafted with the aim to answer these research questions and utilize the available research. The author follows the method of qualitative content analysis described by Hsieh and Shannon (2005), which is used to “interpret text data from a predominately naturalistic paradigm” (p. 1278). Based on their classification, the approach taken in this study follows the conventional and directed type.

As proponents of this method argue (Hsieh & Shannon, 2005, p. 1297), the conventional content analysis allows for exploring the overall topic of an article. Analysts are required to read the whole text to immerse themselves in the text and understand its general scope. Then, codes that capture the key ideas are derived from the text on the level of words, sentences, or paragraphs depending on the scope of the research (for this study, paragraph-level analysis was deemed appropriate for capturing the essence of the discussions). Individual codes are finally clustered and labeled to give a sense of the umbrella thought – in this case, the themes.

Unlike conventional analysis, the directed approach provides a clearer structure to the process of determining the codes (initial coding categories) and the relationships between them. As the authors of this methodology state, “[t]he goal of a directed approach to content analysis is to validate or extend conceptually a theoretical framework or theory” (Hsieh & Shannon, 2005, p. 1281). This also included cases of using available research for “predictions about the variables of interest” (Hsieh & Shannon, 2005, p. 1281). Reflecting the precarious conditions of doctoral students in the country and building on a scholarly understanding of the mediatized construction, the directed content analysis here is operationalized to target specific variables – social actors within the Ph.D. discourse and their visibility and active participation in the media.

The phenomenon is analyzed using a qualitative approach to text and then quantified to represent the size of individual datasets of specific themes and social actors. Although the analysis includes this enumeration of the clustered themes and their subcategories, it is crucial to recognize that the qualitative method is used, which “goes beyond merely counting words to examining language intensely for the purpose of classifying large amounts of text into an efficient number of categories” (Hsieh & Shannon, 2005, p. 1278). By putting the issue under scrutiny in a local context while reflecting the scholarship on working conditions in academia, the presented analysis fulfills the conditions of the qualitative content analysis, which entails “subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns” (Hsieh & Shannon, 2005, p. 1278).

DATA COLLECTION

The data sample was created through NewtonOne (2023), an online media monitoring platform by Newton Media, available to the author through a complimentary university subscription. The search query was optimized after several experiments to the keyword chain of “*doktorské stadium*” OR “*doktorandské stadium*” OR *phd* OR *doktorát* OR *doktorandi* OR *doktorandky* OR “*doktorský titul*” translated to English (with noticeable simplification) as “*doctoral studies*” OR “*doctorate studies*” OR *phd* OR *doctorate* OR “*doctoral students*” OR “*female doctoral students*” OR “*doctoral degree*.” The search was limited to the presence of the words only in the title to ensure that Ph.D. is presumably the main topic of the article.

The studied period was set for 18 months – from January 1, 2022, to June 30, 2023. The starting date was chosen as it was the time when the new Head of the Ministry of Science came into office after several years of the institution not operating. The author believes that this change marks a possibly stronger focus on science-related topics in the public space, including the media. The ending date was chosen relative to the time when this study was conducted. Conveniently, June 30 is the last school day before a two-month holiday (this does not apply to universities but is still generally considered as the start of the summer period, which typically results in less media attention as well).

Following these steps, the NewtonOne database returned 456 results. Later, 49 were excluded from the final data set for being incorrect (the case of a company called PHD, a.s. and also the case of PHD used as an abbreviation for an event called Prague Hematology Days). In total, 407 items in the final data sample were used in the analysis performed in an XLSM Excel table. The author confirms that the aforementioned criteria in terms of the search phrase, keyword placement, and period provide enough data to reach appropriate saturation.

DATA ANALYSIS

Following the methodological framework outlined previously, the process of identifying topics involves three steps. Initially, each article is meticulously read and annotated with topics for each section (paragraph). One, but no more than three, topics are then considered the main one(s) to provide conciseness and avoid repetition of very closely related topics. Subsequently, the denotation of the key topic is written in the working Excel sheet (input for each article). Lastly, these topics are aggregated into broader categories (Themes) to enhance the comprehensiveness and facilitate further operationalization of the data. Two coders analyze the same dataset to maintain objectivity. Any differences are discussed and resolved to reach a consensus.

A subset of the themes is subjected to direct content analysis to address the second research question concerning social actors. This selective approach is driven by considerations of research efficiency and the desire to concentrate on topics of greater significance. This importance is attributed to the relevance of the topic in terms of regional context, societal impact, and the available literature to expand on the ongoing discussion within the field. The subset is operationalized in line with direct content analysis by targeting words describing individuals, either through their (professional) identity or personal names. Following this step, individual instances are clustered into categories to give the research results a clear structure and the possibility of further analysis by other scholars.

The analysis culminates with the interpretation of data in the light of local context and prior academic works. This means evaluating the representation of individual themes and actors by observing underrepresented groups of themes and actors. Despite not conducting a thorough critical analysis, these conclusions shed light on several issues related to power dynamics, especially in terms of represented voices in the Czech media.

RESULTS

The results of the content analysis are organized in alignment with the posed research questions. Individual topics (subthemes) are grouped into broader encompassing themes to enhance clarity and facilitate conceptual grounding for subsequent investigations. These themes (presented in descending order of their prevalence) are: “Ph.D. Title,” “Study conditions,” “University Life,” and “Controversial Issues” (see Table 1 for the quantitative breakdown).

Social Actors are analyzed for Theme 2 (Study conditions), where critical issues arise, such as the financial aspects of the Ph.D. programs, mental health, career prospects, etc. The results are clustered around specific subthemes. Based on the results in this section, the third research question is addressed based on the relative representation of Ph.D. students in media coverage.

THEMES AND SUBTHEMES

The content analysis conducted on the sample of 407 news items reveals ten main topics (Subthemes), sequenced by their frequency: “Honorary Doctorates” (85), “Ph.D. in Professional Titles” (74), “Mendel University Affairs” (52), “Academic Events” (41), “Financial matters” (40), “Other Matters” (33), “Industrial Ph.D. Programs”(30), “Notable Accomplishments” (24), “Academic Concerns”(21), “Gender” (7). These are clustered into four Themes, listed from most to least prevalent, with two clusters being the same size: Ph.D. Title (159), University Life (98), Study Conditions (98),

and Controversial Issues (52). See Table 1 for an overview, which includes short descriptions of the subthemes. The themes are described in detail in this section.

Table 1. Overview of topics (subthemes) clustered in themes

Subtheme	Outputs	Subtheme description	Theme
Honorary Doctorates	85	Announcement of awarding the honorary doctorate.	Ph.D. Title
Ph.D. in Professional Titles	74	“Ph.D.” is listed in the name and is used mostly as a proxy for recognition.	Ph.D. Title
Mendel University Affairs	52	News about a scandal related to international doctoral students at a particular university.	Controversial Issues
Academic Events	41	Invitations to events (workshops, seminars) and reports from events.	University Life
Financial Matters	40	Financial conditions, including doctoral scholarships, wages, pension, sick leave, parental leave, etc.	Study Conditions
Other Matters	33	Mostly operational or administrative matters such as open positions, new study programs, or enrollments.	University Life
Industrial Ph.D. Programs	30	News about the governmental proposal to implement industrial doctorate programs.	Study Conditions
Notable Accomplishments	24	Awards, grants, and other success stories.	University Life
Study Matters	21	Doctoral study conditions, course of study, supervisor’s role, and career prospects.	Study Conditions
Gender	7	Women in academia, studying Ph.D. during maternity/parental leave.	Study Conditions

Theme 1: Ph.D. Title

The largest cluster of topics (159 articles, 39% of the total) is concerned with the doctoral title itself. The subtheme with the most entries in total (85) is dedicated to “Honorary Doctorates.” These mainly document the special ceremonies where the nominees were awarded or an announcement of this public acknowledgment. This shows how instrumental honorary doctorates are when it comes to securing visibility in the media.

The remainder (74 articles) has mostly been the case of “Ph.D.” used as part of the name, e.g., in an interview with someone, or with the term “doctorate” in the title as in *Thomas was out for six weeks. EuroBasket was saved by a shaman with the doctorates* (Satoranská, 2022). In these instances, the use of the title serves as a quality mark demonstrating a person’s qualifications and expertise. Similarly, interviews with current Ph.D. students have the term “doctoral student” used as a role description, e.g., in *“The internship in Brussels gave me a new perspective on science and research,” says Barbora Černilová, a doctoral student at the Czech University of Life Sciences* (Prokopová, 2022). A few articles contain the term “doctorate” as a marker of reputation, often in contrast with other accomplishments that are thereby commonly seen as not so reputable, e.g., in *He has a doctorate, but has been transporting people across the Dalešická dam for 10 years* (Krčmář, 2022).

In several cases, the term “doctorate” is employed in inventive or even erroneous manners. One article titled *A recipe for a better position in the elections? Having a doctoral degree* (Šlechta, 2022) insinuates that possessing a doctoral degree could confer an electoral. However, the story itself pertains solely to medical doctors, i.e., medical school degrees. Another article (Švidrnoch, 2022) intriguingly uses a doctorate in a rather amusing connotation when describing the superior engineering of automobile construction, claiming that its developers deserve a doctorate (“doctorate for the chassis”). This play on words may seem arbitrary (car parts and doctorates are not directly relatable); however, it mirrors the general journalism trend of associating a doctorate with high quality. Seldomly, it is used as a stylistic strategy to create contrast and difference in anticipation and outcome, e.g., *Four students were murdered in Idaho, USA. The suspect is a Ph.D. student* (ČTK, 2023a).

Overall, this thematic cluster does not contain any extreme sentiments, and the words “Ph.D.,” “Ph.D. student,” or “doctorate” are used neutrally (mostly as a title after the name) with the dominant aim to inform, not to induce positive or negative emotions. Since the function of keywords is mostly purely descriptive, this cluster is not further analyzed for social actors, unlike the remaining themes, which offer greater depth and diversity.

Theme 2: Study Conditions

The second and third clusters have the exact same number of articles: 98, accounting for 24% of the total amount of news items. The theme of this cluster is labeled “Study Conditions” and is mainly concerned with financial issues, students’ responsibilities, and other exigent matters that typically excite some urgency, i.e., not informative announcements of students’ achievements or administration, as is the case of Theme 3.

The subtopics within this cluster primarily include issues related to finances: adequacy of scholarships, e.g., *Doctoral students and scholarships: an individual choice or a systemic problem?* (Lojdrová, 2022) or *Doctoral students end their studies due to low stipends* (Kreplová, 2022), and the conditions of sick leave, parental allowance, and other components of health insurance, e.g., *What is the upper age limit for doctoral students and when does the state no longer pay health insurance for them?* (VZP ČR, 2022). Major factors influencing the prevalence of this theme are the “Hour of Truth” protests, extensively covered by the media. As described in the Introduction, the initiative wished to draw attention to unsatisfactory working conditions in academia, namely the remuneration of educators in social sciences and humanities. Secondly, the above-mentioned amendment to the Higher Education Act played an important role in shaping the media discourse with specific financial benefits for Ph.D. students planned by the government, e.g., *Ph.D. scholarships are deplorable. They shall match minimum wage, Miller promises* (Pancíř, 2022). In articles analyzed in this subcategory, the sentiment is mostly negative, echoing the complaints or even the rage of the protestors, e.g., *Poverty drives us to the streets, even though we have the same doctorates, philosophers are calling as they prepare for a warning strike* (Topek, 2023), and the critical need for improvement that is outlined in the proposed amendment to the Higher Education Act.

Another substantial cluster concerns the study conditions in the sense of doctoral matters – the content of Ph.D. study programs and the student’s responsibilities. This cluster is further influenced by the proposed legislative changes. The subtopics encompass discussions on industrial Ph.D. (partially

also in terms of financial benefits and employability), career prospects, and student satisfaction, e.g., *The Ph.D. Students 2021 survey investigated students' views on doctoral studies* (Ministry of Education, Youth and Sports, 2022b), skills, and their development, e.g., *Writing a scientific paper well is a craft that we need to teach Ph.D. students* (Keményová, 2022), student-supervisor relationships, e.g. *The trust between doctoral students and their supervisor must be mutual* (Musilová, 2023) and gender issues (the last two with minor representation). Looking at the data, industrial Ph.D. programs dominate this theme (30 articles, 29% of the Theme 2 group), thanks to the governmental roundtable where the topic of industrial doctoral programs was discussed. Due to the status of this event and the high number of policymakers present (see below for a detailed overview of social actors), the media report on this meeting across various platforms as part of their main current affairs sections, e.g., *Minister Langšádlová: Industrial doctorates – combining academic research with practice* (Politici voličům, 2023).

A noteworthy aspect is that the media occasionally portrays industrial Ph.D. programs as a solution to the financial constraints of Czech students and, consequently, as a tool to decrease drop-out rates (students will be funded by or employed by the companies and thus will not have to compensate low scholarship with additional and often unrelated jobs). Knowledge transfer, academia-industry cooperation, and development of applied research are highlighted as benefits of industrial cooperation. Industrial Ph.D. as a solution to financial issues is even the very focal point of two headlines: *How to reduce the huge number of doctoral dropouts? Industrial doctorates should help* (Keményová, 2023), and *“Poor” doctoral students are also to be paid by companies, the state is planning industrial doctorates* (Pur, 2023).

The question of gender is not picked up by the media to a larger extent. Only seven articles tackle this issue as their main topic. Three are concerned with the first woman to obtain a Ph.D., e.g., *The world's first woman with a doctorate could have a statue in a square in Padua, Italy* (Pacovský, 2022). Gender issues are not explored any further within these articles. One article frames the topic in the following way: *Being a female Ph.D. student in technology?* (Henzlerová, 2022) hinting towards women in the STEM field as something unexpected or out of the ordinary. Only three articles do justice to the topic by bringing gender issues to the forefront. Nevertheless, all focused solely on motherhood, e.g., *The Czech Republic has few women in research. Maternity leave for doctoral students can bring more female scientists* (Ryšavá, 2022c). This cluster about gender is also analyzed through the lens of social actors (see below), documenting that women are also underrepresented among the speakers.

Theme 3: University Life

An equally large group, such as the Study Conditions (98 articles, 24% of the total number), is a theme called University Life. Two types of news can be traced to this theme: operational matters and success stories. The former type is used as part of institutional communication – invitations to events, coverage of past events, and administration (e.g., information related to admissions, announcement of a new study program, call for papers, and job openings). These are mostly published not on news sites but on institutional platforms like the university website. The latter type (success stories) encompasses narratives celebrating doctoral students' accomplishments, such as winning an award, receiving funding, or otherwise succeeding in their academic careers (e.g., *An American Ph.D. student cracked a 2,500-year-old language riddle*) or other activities (e.g., *A Ph.D. student from the Faculty of Architecture founded her own gallery in a passage in the center of Brno*).

Similarly to Theme 1 in terms of sentiments, this cluster is mostly neutral (in the case of operational matters) but with a significant number of articles also having very positive sentiments (the case of students' accomplishments). Since these data do not exhibit any negativity that could potentially be harmful or lead to misuse of power, and since most of the articles are published on university platforms and not independent media, the theme is not analyzed further. Nevertheless, the analysis focuses primarily on institutional channels and their portrayal of, e.g., female academics, which might generate valuable insight into the self-representation of universities.

Theme 4: Controversial Issues

The last thematic category that the author assigned to the analyzed data is titled Controversial Issues and is documented in 52 articles (i.e., 13% of the total dataset). Despite being the smallest group out of the four, it represents a significant part of the dataset for several reasons. It revolves around a single issue – a scandal at one university. All articles in this section cover the story of Mendel University (MENDELU), where several doctoral students in the English program received their degrees despite not fulfilling the necessary tasks and graduating earlier than students in the Czech program, hence the often-used Czech term “rychlostudium” loosely translated as “accelerated study,” e.g., *Accelerated study in Brno. The agency offered a doctorate at Mendel University for CZK 605,000* (Hrdlička, 2022). These students were admitted through high-fee-charging educational agencies that did not reflect the university fees announced on their website.

The reported misconduct in the administration (the dean’s office) received high media attention across platforms. This large interest stems partially from the fact that the university rector at the time of the misconduct, Danuše Nerudová, was then running for presidential office. The topic is thus also framed in the political context whenever it is possible, e.g., *Nerudová’s dean resigns. The reason is doubts about doctoral studies at MENDELU as opposed to MENDELU’s dean* (ČTK, 2022b), shedding a negative light on the university as well as doctoral students who were not involved in this scandal, as one student reported later, saying that people question the legitimacy of her doctoral degree (Skoupá, 2023). (The medium later changed the title to *The dean resigned due to concerns about doctoral studies during the era of rector Nerudová*, as can be seen in the references.)

Because of the serious embezzlement accusations, loss of accreditation, and the political nature of the controversy, articles in this theme group often bear a negative tone. This has implications for the image of Ph.D. in society, which is also constructed through the media, as argued in the theoretical section. Moreover, some articles are framed in a way that evokes negative connotations with all doctoral students. Such framing attributes the responsibility mainly to students and not the university; for example, *Mendel University deals with troubles with Ph.D. students* (vtk, 2022), where students are associated with problems as opposed to *Punishment for accelerated study at Mendel University. It lost accreditation for doctorates in economics* (ČTK, 2022a), where the focus is on the offense attributed to the university.

SOCIAL ACTORS

The secondary content analysis within the “Study Conditions” thematic cluster is concerned with social actors, specifically examining instances of direct speech to map who is afforded media visibility and the opportunity to articulate their perspectives. As detailed results below show, there is a dominant representation of political actors across the dataset. To some degree, this is a result of framing the topics as a political issue (e.g., a proposed amendment to the law, the impact of fiscal politics, or accreditation changes).

Contrary to expectations, doctoral students, the core subject of this analysis, are rarely offered space in the media. On the rare occasions they are featured, they mostly voice their opinions on behalf of other students from the position of representatives of student initiatives or other formal bodies. Personal stories of those without any ties to the media or official institutional structures are not part of the dominant discourse, and those topics of a more intimate nature (e.g., mental health) are also notably underrepresented – either as a direct consequence or coincidentally. In relation to the third research question, it can be argued that students do not participate in the discursive construction of a Ph.D. in media to the same extent as other actors.

Actors “Industrial Ph.D.” cluster

The subject, covered in 30 articles, stems mainly from governmental discussions centered primarily around one event – a roundtable held in the office of the Czech Government on February 6, 2023. The event was attended by the Minister for Science, Research, and Innovation Helena Langšádlová,

Deputy Minister of Education Jaroslav Miller, as well as representatives of technical universities, students, and representatives of companies with research centers. Existing media coverage is vastly based on the official press release about this event (Czech Government, 2023).

The two above-mentioned politicians are frequently mentioned throughout the coverage, resulting most likely from the official governmental communication that included their citations. Additionally, industry representatives are cited in two articles: Technical and Commercial Director of Veolia, Spokesperson of ŠKODA AUTO, and Director of Siemens Advanta in *How to reduce the huge number of doctoral dropouts? Industrial doctorates should help* (Keményová, 2023), and one Hochtief board member in *A culture of knowledge transfer will lead to a higher value-added economy* (Bečková, 2023). Other companies, including Zentiva and Bosh, are mentioned, but their management has not commented on the issue. Institutions like The Business and Investment Development Agency CzechInvest and Technology Agency of the Czech Republic are also mentioned but not cited. Several Czech universities are represented in the articles either as universities that consider industrial doctoral programs or as those that have some experience with this format. Some of their representatives are also cited in the articles, e.g., the Rector of the University of Mining and Technology Ostrava in *Universities would welcome the introduction of industrial doctorates* (ČTK, 2023b) or the Dean of the Faculty of Construction at VUT Brno in the already mentioned article titled *A culture of knowledge transfer will lead to a higher value-added economy* (Bečková, 2023).

Despite students being mentioned as the key group of people who will be positively affected by the introduction of industrial doctoral programs, none of the articles directly cites any Ph.D. students (apart from the Chairwoman of the Czech Association of Doctoral Students, see below). It is repeatedly mentioned in the articles that universities, the industry, and the whole epistemic community would benefit from this format. Also, it would supposedly solve the issue of insufficient scholarships and drop-out rates that stem from students' necessity to secure additional income through jobs outside of the university setting, often unrelated to their research field. These implications are stated almost as common knowledge and are unsupported by evidence or personal stories. The author of this study considers the absolute absence of student citations in media discourse to be possibly symptomatic of Ph.D. students not being truly involved in larger discussions about their role within the university system despite them attending the said roundtable.

One article covering this topic (in two instances – online and print versions) contains a direct quote from a graduate of a Master's program (not a Ph.D. student). In her statement, the graduate of the University of Chemistry and Technology in Prague says: "I enjoyed school, and I can imagine that I would continue with a doctorate, but how am I supposed to support myself on seven thousand [Czech crowns] a month? I can't even find a studio apartment in Prague today for that amount" (Pur, 2023). The gravity of the current state of doctoral studies is obvious. The article under scrutiny is titled "*Poor*" *doctoral students are also to be paid by companies, the state is planning industrial doctorates*. The adjective "poor" attributed to students is considered by the analysts of this study highly problematic for the following reasons. The insufficient financial resources provided by the universities are framed as an identity trace of students (the choice of word, although in quotation marks, is rather insensitive) and implicitly shifts the responsibility from institutional support to personal financial management. The reasoning behind this statement becomes apparent if we compare it to an alternative choice of wording like "underfinanced doctoral programs" or "doctoral students lack recognition."

The already mentioned article *How to reduce the huge number of doctoral dropouts? Industrial doctorates shall help* (Keményová, 2023) warrants detailed scrutiny for several reasons. First, the word "dropouts" in the original Czech version ("odpadlíci") has a distinctive meaning closer to the English term "renegades" with connotations to films about the "Wild West" or other action narratives. This expression is not neutral and carries a special meaning which pictures the situation more lightly or with humor. Doctoral students who leave university before graduating for serious reasons, including unfavorable financial conditions, may interpret the word choice as highly insensitive and even offensive.

Despite this first impression from the title, the article offers an advanced analysis of the situation especially due to the diversity of actors represented in the coverage. Beyond politicians and industry leaders, Chairwoman of the Czech Association of Doctoral Students Šárka Lojdrová is directly quoted. She highlights the potential benefits of the industrial Ph.D. programs but urges caution, especially in terms of which students will be eligible for these programs (and who will not be due to the condition of very practically oriented research) and how their responsibilities will be adjusted (e.g., the required number of publications, and the potential oversight of significant issues). Her statement can be considered an indirect representation of student perspectives and is critical in this context. However, the direct opinions and experiences of average students remain unaddressed in the article, as was described more closely in the cluster on financial matters. Without a platform like the Czech Association of Doctoral Students, their voices would not be heard at all. It is proof that organized representation of students is truly influential, especially in a country where academic unions are not common as opposed to, for instance, Sweden (Kettis, 2019).

Actors in the “Study Matters” cluster

This diverse cluster includes 21 articles featuring a range of social actors, from politicians to academia management and Ph.D. students themselves – the key difference from the previous cluster. However, their representation is still not on par with that of other stakeholders (only six articles offer the perspective of students through direct speech).

The politicians with direct citations are the following: two Deputies of the Minister of Education and one Member of Parliament (very short text containing a published commentary from the parliamentary meeting); one Deputy Minister interviewed about the amendment to the Higher Education Act where a solely political stance without students’ quotes is understandable; and another Deputy Minister quoted in an article titled *The “Doktorandi 2021” survey investigated students’ views on doctoral studies* (Ministry of Education, Youth and Sports, 2022b). Despite the survey’s focus on Ph.D. students and alarming results of the study related to mental health risks, low satisfaction rates, and declared financial struggles, no students are interviewed for a quote in this article (in two instances – one on the ministry website, one fully copied on a news platform).

Both deputies are also given space in an extensive article, *The science of happiness: Ph.D. students and mental health* (Vědavýzkum.cz, 2022), which introduces several international studies tackling issues like happiness, depression, suicide, mindfulness, and topics like insufficient institutional structures. Again, no doctoral student comments on this topic despite a thorough analysis of the mental health theme presented in the article and citations from seven people in total. The Chairwoman of the Czech Association of Doctoral Students mentioned in the previous Results section warns about the complexity of the topic in the Czech context and the need to assess not only financial matters, as is often the case in public discourse, but also the conditions like the power dynamic between students and their supervisors.

Management-level academics voice their opinions in coverage focused on the respective universities. Three articles introduce the evaluation of a Ph.D. program at Masaryk University and include quotes from the Vice-Rector for research and doctoral studies, the Dean of the Faculty of Social Sciences, and the Vice-Rector for education and quality. Although Ph.D. students were part of the evaluation through in-depth interviews, their voices were not directly represented in the media coverage.

In one interview for a student newspaper (Malečková, 2022), the Vice Dean for Science and doctoral studies at the Faculty of International Relations of the University of Economics lists suitable traits of people considering a doctoral degree in a rather normative manner. This can also be observed in the title, which is based on one of the Vice Dean’s answers: *Druláková: A doctoral student must be resistant and patient*. Despite a clear understanding of the objective constraints of doctoral programs that she demonstrated throughout the interview, claims like this one contribute to the mediatized image of doctoral students who have to fit into a certain profile and follow the official requirements. This in-

terpretation is caused by a lack of balanced commentary on the part of the supervisor's responsibilities and desired characteristics. Certain pushback to this dominant narrative can be seen in the article titled *Ondřej Havelka: The manual will help the education of doctoral students* (Pluhař, 2023). Havelka, who comments on the planned standardization of supervisor requirements, is a Ph.D. student but, in this text, is in the position of the member of the committee for doctoral studies in the Student Chamber of the Council of Universities, not in the role of an average doctoral student. This is a phenomenon visible across the dataset – Ph.D. students are part of the media discourse on doctoral programs predominantly in passive roles without privileged access to the audience through direct speech unless they serve an additional function as representatives of an institutional body (such as the Council of Universities or the Czech Association of Doctoral Students).

A few exceptions can be found in this cluster and can serve as a useful example of balanced reporting that also grants doctoral students access to media visibility. One of them is even associated with the above-outlined discussion on the specifics of the student-advisor relationship. As its title suggests, the article *The trust between the doctoral student and his supervisor must be mutual* (Musilová, 2023) highlights the importance of equally addressed requirements in terms of how an ideal supervisor should look and the optimal prerequisites for successfully completing a doctoral program. Both a Ph.D. supervisor and a Ph.D. student were interviewed about this topic, offering a balanced assessment of the issues related to the Ph.D. program. Another example is a 20-minute public radio interview with a Ph.D. student about the entry exams, life at university, and financial conditions. Although this serves as an example of the few successful media outputs representing the student perspective, it is important to note that the student is also a host at the station that broadcasted the interview, which reflects the observation of this study that access is not granted to students at large.

A special subgroup of articles in this cluster consists of a radio interview and a follow-up article on the topic of student activism, specifically on the students' objections to the teaching methods of a strongly criticized art school professor. In the interview (both in the audio version and in the edited transcript with a few excerpted quotes), a doctoral student talked about the issue with a former Dean who publicly defended the professor. However, the student is not a representative of the affected students but a Ph.D. student from a different university who is the founder of an initiative that fights against sexualized violence. Again, she is approached by the interviewer rather as a student representative with a public function than as one of the students directly affected by the cause.

To connect the identities in this cluster with types of media outlets, it can be concluded that the articles that explored the topic of doctoral matters deeply and with the involvement of students themselves as speakers are specialized news sites – *Vědovýzkum.cz* (“Science and Research”) dedicated to research management and politics and a content platform *Universitas* run jointly by several Czech universities. The general news sites and websites of universities and ministries rarely offer citations from students.

Actors in the “Financial Matters” cluster

Covering 40 articles, this cluster examines financial aspects of doctoral studies – the size of the scholarship (partially within the context of the Higher Education Act), the student protests about the scholarship reduction, a proposal for a lower acceptance rate to guarantee higher scholarships, and the ministry amendment for inclusion of doctoral years in pensions.

Due to the political dimension of topics related to funding, governmental representatives are leading the discussion in this cluster – they are directly quoted or interviewed in 19 articles. Almost half of the analyzed texts, which is a significant proportion, especially because some articles do not include any citations at all – case of 8 articles – or are less relevant to the topic. Five ministries are represented in the sample through their employees: Minister for Science, Research and Innovation, Helena Langšádlová, Deputy Minister of Education, Jaroslav Miller (both strongly represented also in the Industrial Ph.D. cluster), the Minister of Labour and Social Affairs, Martin Jurečka, and the ministry's

spokespersons. Without a direct quote are the Minister for Regional Development, Ivan Bartoš, future (at the time) Minister of Education, Petr Gazdík, and Minister of Justice, Petr Blažek (lowest representation, mentioned only in an article about law students that was published three times – and without a direct quote). The Czech President, Petr Pavel, and the former presidential candidate, Danuše Nerudová, who acts here as an Economist and former Head of the Fair Pensions Commission, are also included in this topic and quoted. Current Prime Minister Petr Fiala, Prime Minister at the time Andrej Babiš, and former Minister of Education Vladimír Balaš are mentioned but not cited. The diversity of political representation documents the complexity of the issue (i.e., which departments influence the scholarship and salary of doctoral students) and its importance to the media, which is heavily invested in obtaining quotes for their coverage.

Compared to the other clusters that are analyzed for social actors, financial matters have a higher ratio of speakers from the student body. Precisely 13 news items (i.e., 32,5% of the cluster size) include citations from doctoral students. However, closer examination reveals a pattern that can be observed in the analysis of other clusters. Doctoral students who are quoted in the texts are almost exclusively students with additional roles or official functions. In the case of the cluster at hand, these are, for instance, the repeatedly mentioned Šárka Lojdrová, Chairwoman of the Czech Association of Doctoral Students, in the article *The state wants to better support the best ones. There will be fewer doctoral students* (Ryšavá, 2022a); Klára Šárovcová, initiator of the open letter to the management of the faculty, in the article *Ph.D. students at the barricades* (Štefek, 2023); two spokespersons of the *Univerzity za klima* (Universities for Climate) initiative in *Away with coal-fired power plants, more money for Ph.D. students, the students demand* (Poláková, 2022); Michal Farník, Chairman of the Student Chamber of the Council of Universities, in three articles about pension; Petr Baierl, President of the University Trade Union, in *I have a doctorate and I get [CZK] 35 thousand. Humanities teachers protested for higher wages* (Hejl Hromková, 2023); or Anna Schubertová, a member of the *Nablas (Aloud)* initiative against sexualized violence, in the article *Doctoral students end their studies due to low stipends* (Kreplová, 2022) which does not even deal with the topic of harassment – expertise of Schubertová.

In all these cases, the public involvement of Ph.D. students is a gateway to media visibility, as journalists tend to reach out to these people as a proxy to all students. The “average” voices are seldom heard (as documented below), and it can thus be deduced that organized groups, associations, or sections of official bodies are a significant component of students’ participation in the media discourse. In the absence of formal representation, doctoral students may not be included among the social actors who influence the public discourse.

Additionally, this study’s analysts also note that the limited visibility of doctoral students in the media also has to do with their categorization as students, similar to undergraduate students. Those enrolled in Ph.D. programs should be considered early-career researchers, as some speakers in the news coverage pointed out; for example, in the article titled *The state will count four years of doctoral studies towards retirement. The government’s move also has critics*, the Chairman of the Student Chamber of the Council of Universities: “In Western countries, Ph.D. students are treated as young, budding researchers [...] We aim to redefine the Ph.D. as a professional role rather than merely an educational pursuit” (Janda, 2023). Firstly, doctoral students are part of the academic community by being actively involved in research, publishing, conference participation, reviewing, and other duties akin to their senior counterparts. Secondly, they contribute to the departmental operations by supervising students, teaching, or helping with the organization of state exams. Despite these contributions, they frequently lack formal employment contracts – a central issue in discussions about financial issues and pensions. Reconceptualizing doctoral students in media and academic discourse as peers to established scientists could potentially reduce barriers and enhance their visibility across various platforms. Subsequently, they could receive more public visibility through different platforms as opposed to the current situation in the media. However, this premise warrants further investigation.

A contrasting position is captured in the article *Ph.D. students at the barricades* (Štefek, 2023), where the author writes that the editors reached out to over 30 students to comment on the financial matters.

However, they were not interested in giving a commentary, saying that “they have come to terms with their financial evaluation”. This can be interpreted either as a lack of interest and clear understanding of why the students’ visibility in media is low or as a desperate feeling that media discourse cannot change anything. Regardless of the reasons, other media in the dataset do not comment at all on why the student voice is missing from their coverage.

A unique approach was taken by the national TV channel that broadcasted a prime-time story titled *Increase in scholarships for Ph.D. students*. After a short introduction to the planned revision of the law, two doctoral students are interviewed about their experiences with doing a Ph.D. and are asked to reflect on the financial situation from a rather personal perspective. Very critical voices are raised about the current situation (e.g., about the expectations of time spent in the laboratory resulting in a lack of time for finding an additional source of income) while being presented from a subjective position, not as a data analysis of the situation (a case of several other articles). This is an instance of balanced media coverage that includes student voices as a primary position of the story – an approach that is rather unique throughout the studied sample and can thus offer inspiration to other media outlets.

Similarly, doctoral student Hana Řičicová was invited to a university podcast (Celetná on Air, n.d.), where she introduced her doctoral program and associated struggles (however, she has an already higher public profile as a professional journalist). Šárka Lojdová, doctoral student and Chairwoman of the Czech Association of Doctoral Students has written an op-ed piece for the alternative media platform *Alarm* titled *Doctoral students and scholarships: An individual choice or a systemic problem?* (Lojdová, 2022). This is another example of a doctoral voice in the media – a student in the role of an author. However, those are still very infrequent (another example is an article in *Vědovýzkum.cz* about the supervisor codex, see below), and not every student has the ability to participate in news production.

Several senior scholars, including Rectors, Vice Chancellors, and Deans, are quoted in this cluster, mostly in relation to the protests for improved financial conditions of university teachers or in the context of expressing their support to students in the debate about the size of scholarships.

Actors in the “Gender” cluster

In the “Gender” category, seven texts were identified. Three of them focused on one particular case in Italy, where the controversial debate between councilors and historians (both male and female) arose after a proposal to erect a statue of the first woman with a doctorate title in the world in the famous Padova square – e.g., *The first woman with a doctorate in the world could have her statue in a square in Padua – along with 78 men* (Pacovský, 2022). The debate brought a broader discussion about having only male statues there – even of those figures with less significance.

Two articles addressed the financial challenges faced by Ph.D. students during maternity/paternity leave, which have led many to abandon academia. The topic is discussed by the Minister of Science, Research and Innovation, Helena Langšádlová, and the representative of the Institute of Sociology of the Academy of Sciences, Hana Tenglerová, who agreed that improved conditions could keep more women in science in the article *We must give doctoral students at least CZK 19,000 per month, they are fleeing abroad, says Minister Langšádlová* (Ryšavá, 2022b). No female or male Ph.D. students are quoted in this text.

Rather descriptive text with the title *Being a female Ph.D. student in technology?* (Henzlerová, 2022) provided a statistical analysis of Ph.D. students in Germany without any particular quotes of social actors commenting on the topic, thus bringing the difference between female and male students in terms of the chosen field (e.g., technical subjects: 78% of male students, art: 67% of female students). However, the article did not extend this comparison to the Czech context, limiting its applicability to our study.

The last article from this category, *Pregnancy, childbirth, doctorate – it’s hard, but it works* (Mrázová, 2023), offers the personal insight of an author balancing motherhood with Ph.D. studies. This personal

confession (commentary) touched upon several pertinent issues, such as paternity leave, the importance of a supportive environment (both academic and familial), and challenging tasks that students and mothers have to deal with. According to the author's perspective, "science and motherhood go together if you have the right environment to do it" (Mrázová, 2023). Interestingly, the financial conditions are not mentioned in this text at all.

Notably, the last three articles were authored by female journalists. While the focus of this study is not on authorship, the gender of the writers and their representation merits further investigation in subsequent research.

DISCUSSION

In light of current findings related to the low representation of students' voices and pressing issues documented by literature, it can be concluded as a recommendation that universities should consider improving their strategic communication and engaging with journalists to build a representative image of Ph.D. in media. The lack of experiences of doctoral students in news articles is alarming and difficult to change through the agency of students due to the gatekeeping principles as seen by the predominant quotes by students who are public figures with institutional backing. Moreover, the absence of topics such as mental health or gender discrimination in media coverage can prove challenging when attempting to improve the situation in the Czech Republic promoted, for example, by the advocacy of student organizations. Some specific recommendations include adding students' quotes in official press releases, suggesting relevant topics to editors, or offering journalists doctoral students interviews alongside senior scholars.

Similarly, media editors are encouraged to foster a balanced discourse that values authentic experiences over mere political commentary. In the context of the strong mediatization effect (Couldry & Hepp, 2013, 2016) of higher education institutions described in the literature review, it is paramount that both universities and media take part in building a representative image of the Ph.D. landscape to foster a healthy environment and help young scholars and future doctoral students make informed decisions regarding their career as well as leverage better conditions in academia. Journalists can find inspiration in media abroad or by engaging with Ph.D. students directly at public forums.

Lastly, there was a large number of news articles with negative sentiments that were mostly related to a scandal at one of the universities. Some follow-up articles revisit this cause by interviewing a student who was affected by it. The student mentions reputation and trust as some of the critical effects this scandal had on its students and the public alike. This scenario echoes the findings of Kim et al. (2007), suggesting a need for further investigation beyond content analysis to fully understand the implications of such coverage on prospective doctoral candidates. Nevertheless, it proves that universities need to actively manage their media relations to prevent damage to their brand and breaches of trust, as advised by scholarship on communication of higher education institutions.

LIMITATIONS

This study offers a detailed analysis of the Czech media landscape with a focus on Ph.D. topics. A notable limitation is its single-country scope. Expanding this research to additional regions would shed light on how the studied Ph.D. discourse changes across geographical locations, and this article builds a solid foundation for international comparison. The dataset size was deemed adequate to reach data saturation, and it allowed the author to reflect the local context adequately. Moreover, the analyst's proficiency in the local language is key for a thorough media content analysis that focuses on local languages to fully understand the framing of the article, nuances of the vocabulary, and other aspects of language-specific comprehension. Contextualization of the data is a necessary step in interpreting the research results and is in the scope of a single article. Including more countries in this specific study could negatively impact the depth of such analysis due to the limited length of a single

article. Further studies are therefore encouraged in order to paint a full picture of Ph.D. media discourse from a multi-national perspective, possibly as part of a larger research project to guarantee a similar level of detail as demonstrated here.

In terms of the data sample, note that the search query led to the selection of articles from the news database with keywords (“Ph.D.,” “doctoral programs,” etc. – see the Methodology section for the full list) found mandatorily in the title of the articles. This decision, which has led to sufficient data saturation, is designed to include articles where Ph.D. is presumably the primary topic and filter out articles where it is not. As a result, potential articles that feature Ph.D. students, for example, in an interview about their research but not about the Ph.D. degree as the main topic, are not part of the dataset. Although these texts could have shown students’ opinions about the outlined issues, they are nevertheless absent from the dataset that focuses solely on the matters directly related to the Ph.D. degree.

CONCLUSION

Analyzing media content is paramount in understanding how different topics are portrayed in the public discourse and how people in certain social groups are affected by the mediatization effect described by Couldry and Hepp (2013, 2016). Education and science in the media are frequently discussed within the science communication scholarship or media studies. However, the topic of Ph.D. has not yet been thoroughly researched in the context of the mediatized construction of reality.

The article at hand aims to expand the few studies concerned with this issue and contributes to our understanding of how doctoral students, doctoral study programs, and Ph.D. degrees are represented in the Czech media discourse. It utilizes conventional and directed content analysis as described by Hsieh and Shannon (2005) to thematically categorize a sample of 456 articles (407 relevant articles in the final dataset) published in the Czech media during the 18 months starting with the appointment of the new Minister of Science, Research and Education, i.e., January 2022 – June 2023.

As an answer to the first research question, the analysis reveals ten topics (subthemes), listed in the order of their size: “Honorary Doctorates” (85), “Ph.D. in Professional Titles” (74), “Mendel University Affairs” (52), “Academic Events” (41), “Financial Matters” (40), “Other Matters” (33), “Industrial Ph.D. Programs” (30), “Notable Accomplishments” (24), “Study Matters” (21), and “Gender” (7). These are clustered into the following groups (Themes): “Ph.D. Title” (159), “University Life” (98), “Study Conditions” (98), and “Controversial Issues” (52).

To answer the second research question, the author argues that the dominant actors in the analyzed subset are politically involved individuals. To a considerable extent, this stems from the framing of the studied topic as a political issue (e.g., the proposed amendment to the law, the impact of fiscal politics, or changes in accreditation) and the context of ongoing political debates. However, students are rarely offered space in the media, mostly on behalf of other students from the position of representatives of student initiatives or other formal bodies. Personal stories of “average” students are not part of the dominant discourse.

Based on the findings above, it can be concluded as an answer to the third research question that doctoral students do not participate in the discursive construction of the Ph.D. in media to the same extent as other actors, and their voices are thus highly underrepresented. One conclusion worth highlighting is that students who are granted a voice in the form of direct speech are those with partisanship in some formal organization (e.g., student initiative, association, or ties to media).

To summarize the most significant finding of the analysis, the dominant media discourse on Ph.D. is constructed without the contribution of those who are mostly affected by it – the doctoral students. The existing articles talk about students without allowing their voice in the text. A future analysis of the effects this issue has on the recipients would broaden our understanding of the significance of

this notion. However, based on the previous studies presented in the theoretical section and the mediatization concept, it is suggested that problematic power relations should be reinforced towards the dominance of specific social actors. Such reinforcement should focus on politicians who are considerably represented at the expense of students.

The article proposes a research framework that utilizes the method of media content analysis within the social constructivist paradigm and scholarship on science communication. The focus on voices in media discourse introduces a critical aspect to the analysis and demonstrates the significance of media discourse analysis within the discipline of doctoral studies research. With the findings being interpreted vis-à-vis the context of the national educational system and mindful of the particular cultural variables and current political struggles that shape the agenda under question, the article builds a solid ground for international comparison and creates a methodology replicable in other regions.

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