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Surfing the COVID-19 news waves: a Belgian case study of science communication and public relations with university press releases

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Abstract

Press releases remain an important link between academia and the media. While science communication is a goal of universities, public relations is also becoming increasingly salient. The press release, as a significant tool for both science communication and institutional public relations, means that the fields are entwined, prompting us to propose viewing science communication and public relations on a continuum. Based on a quantitative content analysis of all press releases sent out by a Belgian university during the COVID-19 pandemic we show what this university communicates about and identify how science communication can be used for public relation purposes and vice versa.

Keywords

Health communication; Popularization of science and technology; Science and media

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1 ▪ Introduction

A significant portion of university and health news is based on press releases sent out by press offices of scientific journals and universities [Kroon & Schafraad, 2013; Rossmann, Meyer & Schulz, 2017], positioning press releases as an important link between academia and the media [Bauer & Bucchi, 2008]. While press releases are an important tool for science communication, they also serve institutional public relations (PR) purposes [Carver, 2014]. University communication efforts are therefore often mixed, with scientific press releases aimed at both increasing media coverage (PR) and conveying scientific knowledge (science communication) [Shipman, 2014]. Numerous researchers have stated that neoliberal tendencies are becoming increasingly visible in higher education systems, resulting in an increased focus on competition and economic growth [Ecocampus, 2018]. In this context, it is argued that universities have throughout the years further professionalized their PR and press offices with an incentive to publish more press releases [Autzen, 2014], whose goal it is, among others, to gain more media attention [Rossmann et al., 2017], manage the institutional reputation and gain public approval [Carver, 2014]. However, this institutionalized push communication may create a tension between science communication and PR. When the emphasis shifts toward garnering public attention, the primary purpose may change from producing solid scientific output to 'looking good' [Marcinkowski & Kohring, 2014]. Conversely, skilled PR practitioners could actually stimulate effective science communication [Vogler & Schäfer, 2020], and possibly even improve the quality of scientific reporting [Ashwell, 2014].

The plausible tension between PR and science communication in press releases leads us to this study's main topic: the university press release itself. We expect this to serve the interests of both journalists and science communication researchers, given the importance and tension outlined above. To investigate this, we analyze all the press releases sent out by the University of Antwerp (a Belgian university with vaccination expertise) during a demarcated period of the COVID-19 pandemic as a case study. Based on the above, we pose the following research question:

> RQ: What did the University of Antwerp press office communicate through press releases during the COVID-19 pandemic?

2 ▪ Theoretical Framework

2.1 ▪ *What is science communication?*

Being both a field of practice and a field of study, science communication has been defined in multiple ways throughout literature. In this paper, we specifically follow Lewenstein's [2022] definition of 'public communication of science and technology', which we will refer to as science communication, as this is concerned with public communication to a lay audience, and not the professional communication between scientific peers. The difficulty of science communication entails how to accurately explain science in an intelligible and straightforward manner to a lay or nonexpert audience [Lohwater & Storksdieck, 2017]. Modern science is, after all, in many ways detached from society due to its modes of communications, routines and jargon [Schäfer, 2017]. Consequently, scientific events and stories generally end up in the news media in a two-stage process.

In the first stage, university press offices distribute press releases on topics they deem newsworthy, and which are a selection of scientific publications in a preceding period [Woloshin & Schwartz, 2002]. Even though universities have diversified their communication lines by implementing digital communication and social media [Capriotti, Oliveira & Zeler, 2023], the press release remains an important tool for (science) communicators at these institutions. In a European survey Entradas, Bauer, Marcinkowski and Pellegrini [2023] show that 99% of the sampled universities still issue press releases. These packaged materials are valued by journalists, as often difficult scientific jargon has already been translated into a more easily digestible story, reducing the amount of work to be done [Stryker, 2002]. Science journalists report using press releases as background information or a starting point, but none say they use the material verbatim, while at the same time alluding that 'others' might however do so [McKinnon, Howes, Leach & Prokop, 2017]. The influence of press releases on science news coverage is indeed noticeable, as a sizable portion of university [Kroon & Schafraad, 2013] and health news [Rossmann et al., 2017] is derived from press releases, including increased visibility for universities sending out these press releases [Vogler & Schäfer, 2020]. Higher quality press releases are moreover associated with higher quality news reporting; for example, information about risks, harms and limitations is more likely to be included in a news story if they are mentioned in the priorly received press release [Schwartz, Woloshin, Andrews & Stukel, 2012]. However, previous research has also shown that press releases could in the same manner misshape science communication by omitting limitations or caveats, exaggerating results, and failing to express conflicts of interest [Sumner et al., 2016; Woloshin & Schwartz, 2002].

In the second stage, journalists decide whether to write a news story about a particular scientific issue. Science journalism therefore generally plays a central role in popularizing science [Bauer & Bucchi, 2008] and influences its image and trustworthiness [Schäfer, 2017]. Moreover, in times of crisis, these media are of great importance to 'instantly' reach a large number of people and are often the primary source of information for this public [Rossmann et al., 2017]. Science journalism is however under pressure, as journalists increasingly have to produce more work with less resources [Van Leuven et al., 2019]. Due to these constraints, journalists are becoming more dependent on their sources who subsidize them with information (e.g. press releases), which could lead to so-called churnalism, where input from press releases is republished with little or no change [Heyl, Joubert & Guenther, 2020]. Additionally, without the critical eye of journalists and a celebratory style of coverage [Vogler & Schäfer, 2020], earlier mentioned 'mistakes' that occur in press releases could end up in the news more easily [Ashwell, 2014], leaving authors to suggest that the distortion may be partially attributable to the press release rather than the scientific news coverage [Brechman, Lee & Cappella, 2009].

2.2 ▪ *Science communication or public relations?*

Scientific organizations "occupy a special position as they are obliged to meet the politically fostered societal objectives of science communication while also promoting their organizational interests" [Schäfer & Fähnrich, 2020, p. 144]. As some scholars have argued, neoliberal tendencies are increasingly manifesting themselves in higher education systems, bringing with it an increasing focus on (international) competition, economic growth and a managerial way of running universities as companies [Ecocampus, 2018]. In this context, universities have intensified their PR efforts, understood as the aim to make "an institution

look good and helping it achieve its strategic goals" [Shipman, 2014, p. 1] combined with the "distinctive management function which helps establish and maintain mutual lines of communication, acceptance and cooperation between the organization and its publics" [Carver, 2014, p. 1]. Communication departments have therefore been extended, professionalized and incentivized to publish more press releases [Vogler & Schäfer, 2020], whose goal it is among others to gain more media attention [Rossmann et al., 2017]. Universities assume here that their main stakeholders (such as the government, funders and the broad public) follow the news media intensively [Friedrichsmeier et al., 2013, as cited in Vogler & Schäfer, 2020] and thus "ventriloquate through the media to those who control their funds" [Nelkin, 1995, as cited in Borchelt, 2021, p. 152]. To obtain this media attention, universities and scientific experts can especially profit from their status with journalists, as they are deemed to be trustworthy due to their scientific knowledge and their institutional reputation [Kroon & Schafraad, 2013].

The autonomy of science could be compromised here, as a tension between science communication and PR could arise. When the focus shifts to gaining this public attention, the primary goal could change from 'being good' (based on scientific output) to 'looking good' [Marcinkowski & Kohring, 2014]. As a result, communicators at higher education institutions must balance the strengthening of the institution's reputation with disseminating scientific knowledge [Volk, Vogler, Fürst, Schäfer & Sörensen, 2023], where science communication might even be operationalized to enhance visibility, media attention, and reputation [Entradas et al., 2023]. This should not necessarily be problematized. However, distinguishing between 'just' science communication and 'just' PR is where confusion arises. Public communication efforts by universities are almost always a mixed form, with scientific press releases aimed at both encouraging media coverage (PR) and simultaneously spreading scientific knowledge (science communication) by way of the news media and journalists [Shipman, 2014]. PR efforts should not be fundamentally negative then, as skilled practitioners can stimulate effective science communication [Vogler & Schäfer, 2020]. In this view, science communication can be "part of the essence of relations with the public and not automatically a problematic enterprise" [Autzen, 2014, p. 5]. Moreover, Entradas and Bauer [2022] propose a continuum, "with a focus on institutional communication (i.e. classic strategic, self-interested public relations) on the one side and a focus on public engagement open-ended (i.e. inviting and enabling public participation in science and policy development) on the other side" (p. 3). In this manner, universities could combine both societal goals (e.g. broad communication of scientific research) with organizational goals (e.g. self-promotion) [Fürst, Volk, Schäfer, Vogler & Sörensen, 2022].

2.3 ▪ *Case study: COVID-19 and the University of Antwerp press office*

Recognizing the significance of press releases in both science communication and PR, this study aims to further explore the aforementioned continuum through a quantitative analysis of all press releases sent out by the University of Antwerp (UAntwerp), a university in Flanders (i.e. the Dutch speaking part of Belgium), during a demarcated period within the COVID-19 pandemic as a case study. The COVID-19 pandemic presents a unique timeframe for studying science communication, as the Flemish public, seeking information while confined to their homes, increasingly turned to trusted news sources [Vandendriessche, Steenberghs, Matheve, Georges & De Marez, 2020], creating an interaction of supply and demand which resulted in news coverage saturated with COVID-19 updates and medical expert opinions. For instance, COVID-19 accounted for 60% of all Flemish television news time during the

first ten months of 2020, with a peak of 90% in the initial weeks following the lockdown on the 18th of March 2020 [Walgrave & Kuypers, 2021].

In this context, the UAntwerp was an active and communicative societal actor, providing both the Belgian government and the media with available knowledge. Three UAntwerp health experts were among the six most talkative experts on the Flemish television news, and were in the top 20 of most visible news actors in Flanders [Walgrave & Kuypers, 2021]. Additionaly, several university experts participated in various advisory commissions to guide the Belgian government's management of the health crisis. Further related to the pandemic, the UAntwerp has a 'Center of Excellence: Vaccine and Infectious Diseases Excellence in Antwerp (VAX-IDEA)' that combines expertise from research groups focused on vaccination, health economics and the modelling of infectious diseases, evolutionary ecology, experimental hematology and medical microbiology. Next to this, at a societal level, this consortium aims to support policy-making and engage in regular communication with the public through popular media [VAX-IDEA, 2023]. Given its expertise and active communication efforts, the UAntwerp serves as a well-founded and interesting case to study press communication during this pandemic. When comparing the five existing Flemish universities, press offices (i.e. a subsection of the communication department dedicated to traditional press relations) range in size from one to six employees. The UAntwerp press office consisted of one person at the time of our data collection (currently expanded to two staff members), and is integrated in the larger 'marketing and communication department', which employs 26 people. This department is responsible for strategic student recruitment, support (e.g. layout design), event organization and content creation (e.g. social media, website, press releases). Through personal communication with the press officer, we learned that the primary goal of the press office is to write press releases and respond to journalists' inquiries.

We anticipate that the context of COVID-19 will influence our research data and analysis. Due to the aforementioned expertise of the UAntwerp and the prominence of its health experts in televised news, we presume that the university's press releases predominantly focused on COVID-19-related communication, capitalizing on its expert status to secure media coverage. Additionally, we also expect a focus on pandemic related press releases, as the public turned to trusted news sources for more information regarding the crisis [Vandendriessche et al., 2020]. Here, the UAntwerp press office might have wanted to surf the COVID-19 news wave by aligning its communication to what was deemed newsworthy, similar to the PR industry practice of newsjacking, where organizations exploit certain angles related to current news events to obtain media attention [Scott, 2011]. The pandemic's ubiquity might have served as a 'trigger' (i.e. where a general news event can activate further scientific actuality) [Badenschier & Wormer, 2011], prompting the press office to issue press releases on other scientific explanations, and consequently aiming to influence the news agenda.

3 ▪ Method

To answer our research question we conducted a quantitative content analysis on all the Dutch press releases sent out by the UAntwerp press office between 22/01/2020 and 23/05/2022. This period was selected as on the 22nd of January 2020 'corona(virus)' (and related terms such as COVID(-19), corona, SARS-CoV-2) were mentioned for the first time in a university press release and governmental measures to limit the spread of the virus stayed in action until the 23rd of May 2022. By focusing on press releases, we aim to understand a

subset of communication specifically aimed at journalists. The UAntwerp was chosen as a case study based on both practical and empirical considerations. First, all the authors of this article are affiliated with this university, providing easier access to the press release database, as not all press releases are freely available on the UAntwerp website. Second, the university press office was communicative and played an important role regarding expertise throughout the pandemic, leaving us with enough content to analyze. Third, we chose a demarcated period within the COVID-19 pandemic as this gives us a chance to study science communication and PR within a clear timeframe.

All the press releases were collected and downloaded in a PDF format through SMART.PR (i.e. the service used for distributing press releases to journalists) of which a total of 448 remained after filtering out duplicates and non-Dutch language entries. We consciously chose to not focus solely on research-related communication, but rather take all the press releases as our object of study. This approach allows us to explore how PR and science communication could be intertwined and gain insight in how the latter is incorporated in a broader communication mix, as already touched upon by Autzen [2014]. Additionally, crisis communication could be a subfield of public relations [Raupp, 2019], which could offer opportunities in times of a pandemic. Both deductive and inductive methods were employed to code these press releases. We conducted an iterative reading process to familiarize ourselves with the content, further refining our coding categories throughout the study to ensure newly identified codes were not overlooked in earlier coding rounds [Vears & Gillam, 2022]. All press releases were read for a total of five times by the main author. The goal was not to get an in depth analysis of the content of each press release, but rather to get a descriptive overview of what the communication of the UAntwerp entailed throughout the pandemic. No intercoder reliability was measured, as all the coding was performed by one person with relatively straightforward categories. In cases of doubt, consensus was reached through discussion among the authors.

We presumed not every press release would refer to COVID-19. Therefore, the first deductive coding step involved categorizing whether a press release mentioned COVID(-19)/ corona(virus)/SARS-CoV-2 anywhere in the text. After the initial 'COVID-19 coding' (0/1), a second reading was conducted, where the press releases were deductively coded based on their possible focus on research (0/1). In alignment with the distinction made by Vogler and Schäfer [2020], the category 'research' consists of press releases that have research activities as the main focus. The remaining press releases (i.e. 'not research') were categorized as 'institutional communication', due to the fact that they did not talk about concrete research and/or results, but rather had the university as an organization as a central topic (e.g. curricula, inner workings, events) [Vogler & Schäfer, 2020].

During a third reading we focused on inductive subcategories within the research-related press releases. Previous readings indicated that not all press releases approached research in the same way. Through iterative coding and reading, three subcategories emerged from the data: published research, non-published research and announcements of research. We take a 'big picture' approach, treating the entire press releases as the unit of analysis, with each release categorized into only one subcategory [Vears & Gillam, 2022]. 'Published research' press releases were coded when they specifically mentioned research to be published in an academic journal or book. 'Announcements' were identified when the main focus of the release was the recruitment of participants or communication about research that was about to start/being worked on/for which funding was obtained. The 'non-published

research' category included all the remaining press releases discussing completed research without mentioning its publication in an academic journal or book. Within both the 'announcements' and 'non-published research' subcategories, a specific study was communicated multiple times, i.e. the so-called '*Grote Coronastudie*' (Great Coronastudy), which was separately coded within these respective categories. Some examples from our data: "*UAntwerp is looking for volunteers with a newly diagnosed COVID-19 infection to test microbiome therapy.*" (announcement), *"In a UAntwerp survey, nurses indicate that there is still insufficient material."* (non-published), *"On February 9, the thirtieth Great Coronastudy will ask, among other things, your vaccine preference."* (Great Coronastudy announcement) (own translation).

Following a similar approach, we conducted a fourth reading with inductive coding of the 'institutional communication' subcategory. Two categories were identified: 'organization of event' and 'announcement by institution'. The 'organization of event' category included press releases about events that happen on UAntwerp campuses or events where the university is a partner, e.g. *"Prospective students can really get to know their future campus again before deciding which course they will follow."* (own translation). Next to this, press releases about announcements by the UAntwerp, such as investments in buildings/new courses/human resources/etc., were coded in the 'announcement by institution' category, e.g. *"Naegels becomes a teacher of the new subject Creative Writing."* (own translation).

During a fifth and final reading, the surfing of the news wave was coded when a press release mentioned COVID-19 (or synonyms) but where the main focus was in essence something else. An example from our data: "*Lifestyle factors such as insufficient exercise, unhealthy eating, stress or smoking have a major influence on the development of cardiovascular disease. Especially in times of COVID-19, we see that a healthy lifestyle poses an extra challenge.*" (own translation). In this example, COVID-19 is mentioned briefly, but the press release mainly discusses the estimated risk of cardiovascular diseases. After these different rounds of reading, all codes were counted in Excel.

4 ▪ Results

Throughout 853 days 448 press releases were distributed by the UAntwerp press office, averaging 0.53 press releases per day. Table 1 signifies not all press releases were centered on COVID-19 during the pandemic. There is a greater emphasis on the virus, with 56.4% of all press releases referencing COVID-19 throughout their text, while 43.6% do not mention the pandemic anywhere. The pandemic thus never completely covers all of the press office's communication. Furthermore, not all university press releases focus on research, as 60.5% of press releases are research centered (36.8% COVID-19; 23.7% not COVID-19). The remaining 39.5% of press releases focus on institutional communication (19.6% COVID-19; 19.9% not COVID-19), i.e. communication from the university that is related to its workings and activities. Additionally, there is a noticeable increase in the issuing of press releases from the second quarter of 2020 until the second quarter of 2021, beginning with a large peak in Q2 of 2020. Almost simultaneously, COVID-19 seems to have the upper hand (Q2 of 2020 until Q1 of 2021, with a peak in Q2 of 2020), while even in the height of COVID-19 communication, room remains for non-COVID-19-related press releases (see Figure 1).

Table 1. UAntwerp press releases regarding research/institutional communication and COVID-19 (or synonyms) (Yes/No) (N=448).

Research/institutional communication	Press release mentions COVID-19		Total
	Yes	No	
Published research	1.1%	9.2%	10.3%
Announcement of research	15.6%	4.7%	20.3%
Non-published research	20.1%	9.8%	29.9%
Organization of event	11.6%	12.9%	24.5%
Announcement by institution	8.0%	7.0%	15.0%
Total research communication	36.8%	23.7%	60.5%
Total institutional communication	19.6%	19.9%	39.5%
Total	56.4%	43.6%	100.0%

The aforementioned institutional communication is, by definition, distinct from science communication. Two categories, namely 'organization of events' and 'announcements by institution' with respectively 24.5% and 15% were identified. The 'organization of events' category primarily focuses on activities occurring on UAntwerp campuses, highlighting how the university engages with its surroundings and what events are happening for students, staff and broader society. Examples included organizing an academic year kick-off festival for students or giving prizes to remarkable staff members. Whilst both the COVID-19 (11.6%) and the non-COVID-19 (12.9%) sample are mostly similar, the press releases of the former mainly deal with 'how to organize events during the pandemic', e.g. events that are cancelled/ change form/are allowed again. The category 'announcements by the institution' centers on communicating what happens regarding the workings of the university, such as the hiring of a new professor, the construction of new buildings and the election of a new headmaster. Specifically for COVID-19 (8.0%), the focus is laid on how the virus impacts the working of the university, where, for example, press releases are sent out surrounding larger exam locations to ensure social distancing. The non-COVID-19 sample (7.0%) is similar, but without mentioning the impact of the pandemic, such as the creation of a foundation for Ukrainian refugees.

As outlined in the method section, three subcategories were identified within the broader research communication category: press releases on published research, announcements of research and non-published research. Press releases about research published in peer-reviewed scientific journals account for 10.3% of the total sample. Of these, 'only' five (1.1%) are COVID-19 centered. A closer look at the press releases themselves however also reveals that one of these five press releases surfs the COVID-19 news wave to promote other research, namely research regarding child vaccination in Africa. This leaves only four press releases that substantially address COVID-19 research. Given the university's expertise, it is somewhat unexpected that more press releases regarding published research are not COVID-19 related (9.2%) during the pandemic.

Next to this, press releases related to research announcements constitute 20.3% of the press release communication. Both the COVID-19 (15.6%) and the non-COVID-19 sample (4.7%) include such announcements. The larger incidence of the announcements in the COVID-19 sample is partially attributable to the so-called 'Great Coronastudy', which makes

up 65.7% of the COVID-19 announcement press releases. This study was an initiative by the UAntwerp in collaboration with four other universities and funded by the Flemish scientific research foundation. It entailed an online survey that could be filled out in four languages (Dutch, French, German and English) on a weekly (until 04/06/2020), biweekly (until 29/07/2021) and monthly (until 06/04/2022) basis. The goal of this study was to detect possible behavioral changes influenced by the coronavirus and governmental measures, where the researchers stayed close to topical events, e.g. by surveying newly imposed governmental decisions. The goal of these press releases is to attract respondents, explain what they will be asked and give insight in results of earlier waves of the survey. In the remaining COVID-19 announcement related press releases, 37.5% uses COVID-19 as a catalyst to give attention to other research. These press releases cover a variety of research topics, including a vaccine for HPV, online hate speech, vaginal health, air quality (twice), a vaccine for polio, dementia, CHIM trials and general infectious diseases. These press releases have in common that COVID-19 (or a synonym) is mentioned once and subsequently used as a stepping stone to further elaborate research for which they need participants, which is about to start or for which funding is obtained. Taking both the vaccines for polio and HPV as an example, the press releases frame the search for participants in the following way: "*Worldwide we are working on a vaccine for COVID-19, but also other viruses are causing casualties. Take for example HPV. (…) Participants for this study can sign-up via this link…*" (own translation and combination of both polio and HPV press release). Similarly, the air quality press releases use COVID-19 as a contextual reference to encourage public participation in a study on air quality in Antwerp, with the pandemic merely serving as an illustration of the public's rediscovery of nature as an escape during lockdown.

Finally, non-published research press releases make up 29.9% of the total press release communication mix. As with the announcements of research, the non-published COVID-19 sample (20.1%) consists for a large part of the 'Great Coronastudy' (51.1%). These press releases are structured similarly to the announcements, but focus more on the results of the previous study; often even in a summative matter. Additionally, the COVID-19 crisis is once more used to promote other research, as 20.5% of the remaining press releases utilize the crisis to lift the relevance of different research topics. A range of research findings is discussed, including heart disease, poverty, living environment, health care, air quality, vaginal health, safety on university campuses, online shopping and business management. For instance, the press release on business management uses the pandemic as a backdrop to promote a new tool developed by the UAntwerp: "*Today, companies can hardly take unexpected events into account when drawing up their planning, such as a pandemic or a blockage of the Suez Canal. Garvis, a spin-off from UAntwerp, is changing that*." (own translation).

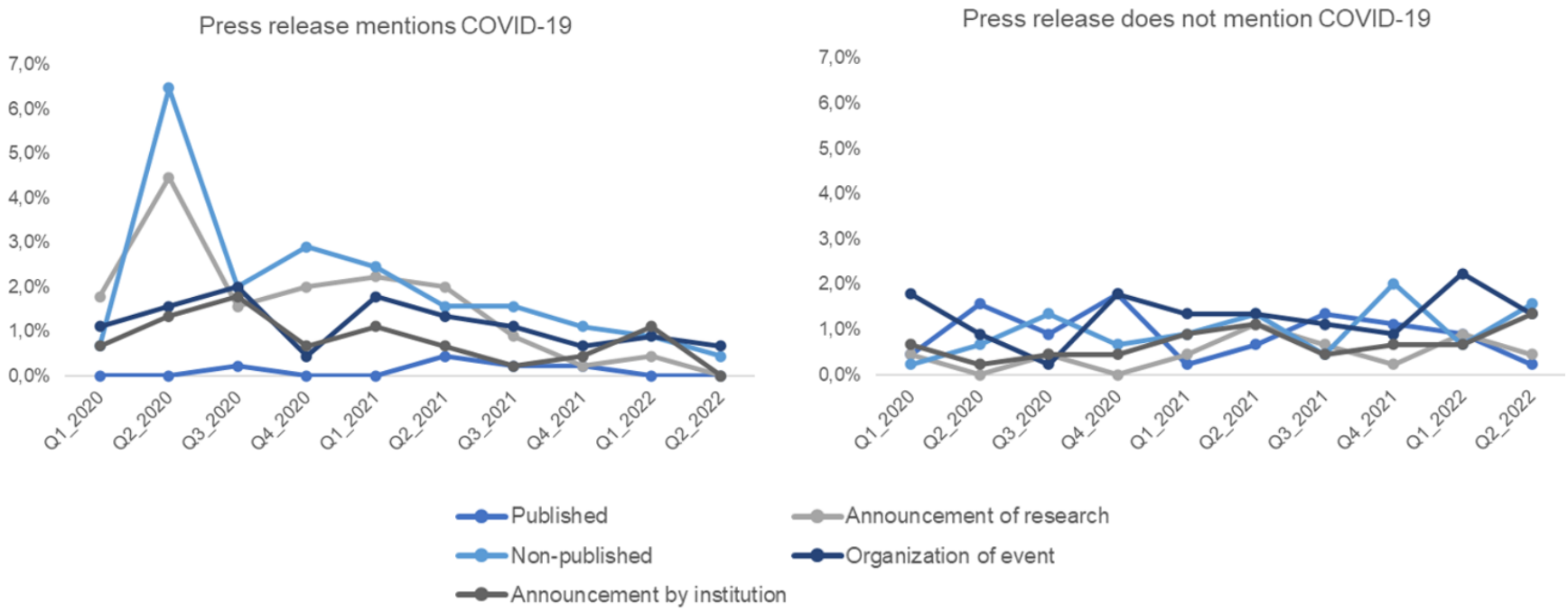

Figure 1. UAntwerp press releases divided by date of publication (yearly quarters) (N=448).

5 ▪ Discussion

Given the dominant presence of the pandemic in the Flemish news cycle [Walgrave & Kuypers, 2021], the public's need for COVID-19 news information [Vandendriessche et al., 2020] and the university's expertise regarding infectious diseases [VAX-IDEA, 2023], we initially expected a stronger emphasis on COVID-19-related press release communication. Although COVID-19 was predominant, particularly in the first year, it is noteworthy that almost half (43.6%) of the press releases are not directly related to the pandemic. The university thus seems to value communicating beyond 'what's happening now' and tries to keep up a steady stream of communication regarding its general working and further research. Additionally, we presume that the university did effectively ride the COVID-19 news wave more, as press releases are just one channel to attract media attention. It is plausible that the university leveraged other channels to engage with the media during the pandemic, potentially influencing the news agenda by, for example, connecting journalists directly with scientific experts from their institution who in turn appear in the media as representatives. This aligns with what Entradas et al. [2023] call 'liaising with journalists', i.e. keeping close contact with journalists, which often happens at a central level of the university. Further, as already noted by Vogler and Schäfer [2020], we should not blindly expect a university to be solely committed to communicating scientific research, with close to 40% of the total communication being institutional communication. For us, these press releases illustrate that a university is more than a research institute, as it is also a workplace and an educational institution. The existence of both research and institutional communication also indicates a combination of both PR and science communication in the university's communication mix, with the institutional communication signifying the more PR related side, and the research communication serving the more science communication related side. These categories may appear mutually exclusive, but upon closer examination of the research communication, the continuum by Entradas and Bauer [2022] of PR and science communication becomes more evident.

Making up one tenth of the total communication, we argue that the science communication regarding published research is quite limited. This is especially true for the COVID-19 sample with 1.1% of the total communication, making it nearly negligible. One could contend that this limited number of press releases about COVID-19 could be explained by the rapid acceleration of the crisis itself and the generally slower peer-review cycle of scientific journals. Research has however shown that publications and reviews were significantly accelerated during the COVID-19 crisis, with studies sometimes being published one week after submission [Palayew et al., 2020]. Furthermore, a data search in the UAntwerp repository shows 683 '*COVID-19 & UAntwerpen*' publication results throughout the same period,[1] signifying there was plenty of 'supply'. We presume a strategic choice was made here, as the university seems to have chosen to 'work itself in the news' (PR) with 'other types of science' (science communication) during the pandemic, i.e. the non-published reports and announcements focused on topical events and societal needs. While we see these reports and these announcement as science communication, we argue they also serve a public relation goal. This dual purpose is consistent with the identified goals of communicators, i.e. combining reputation management with increasing visibility and communicating science

1. Search input: abstract:(mers OR sars OR covid OR pandemic) in "A1 journal OR H1 Book Chapter OR A2 Journal OR A3 Journal or Editorial OR H2 Book Chapter OR ME1 Editor/Co-editor of Book OR ME2 Editor/Co-editor of book OR H3 Book Chapter) during period 2020–2022

[Fürst et al., 2022], and their role conceptions, namely being both science mediators whilst also strengthening the institution's reputation [Volk et al., 2023]. By frequently communicating about ongoing (topical) scientific research, the university is able to both manage its reputation and enhance its visibility as a(n) (scientific) institution (PR) while also providing scientific knowledge (science communication). Specifically the so-called Great Coronastudy seems of importance within both the announcement and the non-published subcategory, as this survey presumably easily answered the need for information of civilians and journalists, and simultaneously offered the press office a chance to make the news. While tension might arise between PR and science communication, there could actually be a working collaboration, as skilled PR practitioners can stimulate effective science communication [Vogler & Schäfer, 2020]. Knowing the importance of press releases for science news reports [Bauer & Bucchi, 2008] and of news media for a lay public [Schäfer, 2017], these press releases could presumably lead to a larger spread of diversified scientific knowledge. By specifically focusing more on these COVID-19 announcements and non-published reports, the university seems to have aimed to establish itself as an active societal actor throughout the pandemic. Although anecdotical, an example from one of the university press releases could further clarify this phenomenon.

> "*The University of Antwerp is very active during this coronacrisis. For example, Prof. Erika Vlieghe heads the GEES, the working group that is developing the exit strategy for our country. And every Tuesday there is the Great Coronastudy. (…) The Center for the Evaluation of Vaccinations recently started a major study in which thousands of blood samples will be analyzed.*" (own translation)

Overall, we believe a combination of press releases about published, non-published and announcements of research are valuable for the university. Published scientific research is of importance for a university to be considered an esteemed actor in the scientific community. In line with this, the university proudly reports a yearly publication rate of 3,650 scientific articles [University Of Antwerp, 2023]. If we were to compare this claim with the number of press releases regarding published research throughout the whole demarcated period of this paper, relatively few seem to make it to (or through) the press office, as 46 (1.3%) published articles, and specifically 5 (0.14%) regarding COVID-19, became a press release. At the same time, we believe it is important to recognize that a university's role extends beyond being a mere producer of peer-reviewed science. Being a societal actor and providing both politicians and the broad public with timely insights into topical matters can be of great value and could extend the public understanding of the university's research activities. In this context, the research announcements are an interesting phenomenon on their own. These press releases have little or no scientific output to communicate. Rather, there is much to gain for science, as the press office aims to entice people to participate in scientific research or hopes to gain attention for starting research. This seems to be communication *for* science rather than *of* science. An example from the empirical data: "*Are you between 18 and 35 years old and would you like to participate in this research into TV entertainment? You can do this until December 18 via this link…*" (own translation). We see this as a continuum of PR and science communication, where the university aims to get attention for science (science communication) but also tries to gain public interest by announcing what they are doing or asking the public to participate (PR).

Finally, the press office specifically surfs the COVID-19 news wave when using the pandemic to promote other types of research or to make announcements of starting research more topical. As illustrated in the results section, the university used the context of COVID-19 to draw attention to child vaccination in Africa (published research), linked the pandemic to the initiation of studies on topics such as HPV and polio vaccines or online hate speech (research announcements) and subtly connected finished non-published reports on issues like heart disease, living environment, or campus safety to the pandemic. By doing so, the crisis becomes an instrument to put other research on the public agenda, where a PR investment is used to show other research the university is concerned with, leading to the university simultaneously promoting itself and its scientific endeavor.

6 ▪ Conclusion

Due to the fact that modern science is complex and in many ways detached from society, it is (science) journalists and news media who form the bridge between the public and academia [Schäfer, 2017]. A significant portion of university and health news is however derived from press releases sent out by press offices of scientific journals and universities [Kroon & Schafraad, 2013; Rossmann et al., 2017]. While the press release is a widely used tool for institutional science communication [McKinnon et al., 2017; Vogler & Schäfer, 2020], it is also an important instrument for institutional PR [Carver, 2014], leaving public communication efforts by universities often as a mixed form, with scientific press releases aimed at both encouraging media coverage (PR) and spreading the scientific knowledge (science communication) [Shipman, 2014]. This left us, following Entradas and Bauer [2022], to propose to see science communication and PR as a continuum.

We explored this continuum through a quantitative content analysis of 448 press releases sent out by the UAntwerp during a demarcated period of the COVID-19 pandemic. Given the university's vaccination expertise, we expected the pandemic to largely take over the press release communication. However, we found that 44% of all press releases did not mention the pandemic anywhere. Additionally, our analysis revealed that this university does not solely focus on the communication of scientific research, as close to 40% of the press releases consists of institutional communication, concerned with the workings of the university and events that are happening surrounding the university. Within the research communication subset, we were able to identify multiple subcategories, namely published research (i.e. research that appeared in a peer-reviewed scientific journal/book), announcements of research (i.e. starting/ongoing research, a call-to-action for participants or received funding) and non-published research (i.e. research reports not published in a scientific journal/book). Press releases related to COVID-19 published research accounted for only 1.1% of the total communication. In contrast, press releases about research announcements and non-published research respectively constituted 15.6% and 20.1%. We argue that the university's press office made a deliberate choice to focus on these categories. With COVID-19 research, the university seems to have chosen to 'work itself into the news' (a PR endeavor) with 'other types of science' (science communication), namely the announcements and non-published reports. Specifically the 'Great Coronastudy' with its repeated, frequent and topical publication was of importance in these categories, as it made up 65.7% of the COVID-19 announcements and 51.1% of the non-published COVID-19 research. We propose that the announcements and non-published research serve both a science communication and PR goal, as they answered topical needs for both civilians and journalists, and

presumably made the university appear as an active societal actor during the pandemic, likely increasing its visibility and enhancing its reputation. Furthermore, we uncovered another combination of science communication and PR in the form of surfing the news wave, where the university's press office leveraged the pandemic to make other research topics more relevant. For instance, the press office connected the importance of a HPV vaccine to the COVID-19 vaccine, thereby bridging the pandemic to other research areas.

We believe this study has provided some valuable additions to the literature by furthering the diversity of topical foci of university press releases (e.g. the subsections in research/organizational communication). Moreover, we identified how a university might utilize a crisis to make the news (i.e. 'surfing the news wave'), whilst at the same time showing that a crisis does not completely dominate all of the university press release communication. The use of the PR-science communication continuum [Entradas & Bauer, 2022] as a conceptual framework presents both opportunities and challenges. This approach allows researchers to go beyond instant problematization, as science communication can be part of the PR by a university [Autzen, 2014]. This perspective also offers a better understanding of the unique position of scientific organizations, as they aim to meet both societal objectives (science communication) and organizational interests (PR) [Schäfer & Fähnrich, 2020], and helps alleviate the observed tension of communicators at higher education institutions, as they feel it is their job to marry these goals [Fürst et al., 2022; Volk et al., 2023]. Moreover, the combination of science communication and PR in our study provides a means of delivering newsworthy public information (e.g. topical reports) and fostering engagement (e.g. enticing participants for scientific studies). Especially interesting in times of a global crisis, utilizing PR techniques can also offer an opportunity for scientific issue management and policy support, as "science by itself is never adequate knowledge for policy making because policies are a function of values, community resources, and science—not solely science" [VanDyke & Lee, 2020, p. 4], where science public relations professionals could speak on behalf of their organization and scientific research. However, there are risks associated with this approach for journalists, who, due to resource constraints, may become increasingly dependent on their sources for information subsidies [Kroon & Schafraad, 2013]. Sources are never neutral, seeing that they have their own agendas where they want to control the discourse regarding their reputation, hereby trying to highlight 'the positive' while leaving behind 'the negative' [Williams, 2015]. The intensified PR efforts by universities could (even) further shift the power dynamic, as already over-worked journalists become overwhelmed with PR stories [Williams, 2015]. In this context, we follow the recommendation by Fürst et al. [2022] in the importance of securing resources for critical science journalism, whilst also strengthening normative principles in higher education institution communication, e.g. by promoting self-critical reflections and basing their communication on rules of good scientific practice.

Further research could provide valuable insights regarding the continuum of PR and science communication. A comparative analysis across different universities in Flanders could be a worthwhile endeavor, as this would give an opportunity to go beyond the limitations of the current case study design. We cannot currently state the generalizability of our results to other universities, as we have only studied one university with one specific press office. We however presume there to be resemblances among Flemish universities, as they work in the same economic and media context. Additionally, our research should be viewed within the unique context of the COVID-19 pandemic, although it may also offer insights into the

broader workings of university PR and science communication beyond the conditions of this crisis. Further comparative research of different time periods will lead to a more comprehensive understanding of a combined PR and science communication approach. Interviews with press officers of universities could moreover provide valuable knowledge concerning the choices made when constructing a scientific press release, including questions regarding possibly conscious PR decisions. Furthermore, examining the actual 'conversion rate' of the press releases, meaning identifying how many news reports were based on each press release, could help determine whether certain content based choices make a difference in the publication effectiveness (and thus uncover both a PR and science communication goal). On a textual level, discourse analysis of the press releases' content could reveal whether the discourse (e.g. tonality, hyperbole, exaggerated headlines) and focus differ between categories of research communication (i.e. published-, non-published-, and announcements of scientific research). Currently, our study also focuses only on manifest communication through press releases. Further exploration of other communication channels, such as digital platforms (e.g. social media) used by universities to engage with the public [Capriotti et al., 2023], could yield useful insights. Additionally, press officers or researchers may have established personal networks with journalists, potentially bypassing press releases when pitching (or obtaining) news stories [Entradas et al., 2023]. Similarly, comparing the research output of a university (e.g. the aforementioned 683 COVID-19 papers in the UAntwerp database) with media output (e.g. news articles) could uncover whether publications that were not press released were none-the-less still covered in the news media.

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Supplementary material

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The supplementary material consists of the codebook and an Excel file with the coded press releases, divided by category. The actual press releases cannot be provided due to privacy reasons.

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