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**“Health Experts as Media Experts:
Engagement of Scientists as Media Experts in Times of
Confusing Media Opportunities”**

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1. Introduction

People living in a knowledge society and democracy require scientific information to make informed and personal decisions (Dernbach, 2012). No wonder, then, that topics in the field of science have become increasingly popular in recent decades (ibid.; Eurobarometer, 2021). After all, people obtain a large part of their knowledge from mass media (ibid.). Likewise, the relevance of science seems to be reflected not only in mass media, but also in people's everyday lives. This is also visible in the Eurobarometer, which shows that science and technology have been of great concern to people in recent years (Eurobarometer 2019; Eurobarometer 2020; Eurobarometer 2021).

Particularly since the outbreak of Covid-19, interest in science has intensified as the virus and measures to contain it dominate everyday life (Czypionka et al., 2020). This intensified interest in science leads to problems especially in communicating the health aspects of Covid-19, because scientific research takes time (Dernbach, 2012) and science increases the complexity of the world through further findings. Journalists, in turn, try to reduce the complexity by selecting news based on news values (Schulz, 1990) and by making the content accessible to recipients (Dernbach, 2012). Thus, during Covid-19, scientists in particular take on a special role as experts in media to meet people's increased demand for health-related and reliable information (Loss, et al., 2021). Through their role as media experts, scientific experts come into more contact with the media during the Covid-19 pandemic than ever before (ibid.; Wormer, 2020) and learn a lot about journalistic practice and the functioning of media. In this context, reporting on Covid-19 has a special responsibility, since in times of crisis good and reliable communication can be a "matter of life or death" (Krause et al., 2020, p. 2).

Describing the omnipresent media coverage and medialisation of society, Luhmann already stated in 1996: "Whatever we know about our society, even about the world we live in, we know it through the mass media" (p. 9). This is because the majority of Austrians inform themselves about Covid-19 through traditional media (Lebernegg et al., 2020) and media reporting takes on a central role and responsibility in the fight against Covid-19 (Loss et al., 2021). Because of this new challenging situation, the public demands firstly, that medical experts are included in political decision-making processes and secondly, journalists are expected to provide clear and definitive information by referring to scientific expertise to meet the need for trustworthy information (Post et al., 2021).

There is already some research on scientists as media experts, yet these studies mostly focus on the role of scientists and how they evaluate their media appearances (e.g. Bauer and Jensen, 2011; Besley & Nisbet, 2013; Besley et al., 2018; Dudo & Besley, 2016; Thiele, 2021). Studies tend to focus on the relationship between scientists and media in general but do not distinguish between individual media (Besley et al., 2018; Peters, 2013). In particular, the perspective of scientists having the status of a "source" in media is missing in studies to date (Petersen et al., 2009). Additionally, little is known about how scientists interact with journalists or media, respectively, and how diversity within journalistic media is perceived by scientific experts (Dunwoody, 1999; Editorial, 2004; Gunter et al., 1999; Petersen et al., 2009; Reed, 2001). The aim of this work is therefore to gain deeper insights into this relationship between journalists and scientific experts and to find out how scientists perceive diversity within quasi-journalistic media, how they evaluate the coverage on Covid-19 and to what extent they recognise a media logic or functioning in media.

This master's thesis attempts to close this research gap by dedicating and contrasting the scientific perspective with the journalistic perspective. The study during Covid-19 is particularly suitable for this purpose, as scientists have never been as present in media as they are now (Loss, et al., 2021).

The concept of the master's thesis is structured as followed. The second chapter, which in turn is divided into further subchapters, is dedicated to journalists and experts. The first sub-chapter (2.1) deals with the journalistic selection process and how journalists select experts for reporting. The second sub-chapter (2.2) looks at the opposite perspective, namely what motives exist for experts to appear in media in the first place. This chapter is again divided into two subchapters. The first deals with the Theory of Planned Behaviour (2.2.1), which attempts to predict planned behaviour, such as media appearances by scientists, based on predictors. The second sub-chapter defines media engagement (2.2.2).

The third chapter focuses on the relationship between journalists and experts and no longer considers the two groups separately. First, a sub-chapter deals with Bourdieu's field theory and how this theory considers experts from other fields than science (3.1). For it is not only scientists who are present and relevant in media as experts. Experts from politics, sports or economics also appear regularly in media and share their expertise. For this reason, experts from different fields and their relationship to journalists are considered to gain a comprehensive picture of different experts in the media (3.2).

Chapter 3.3 takes a closer look at scientists. In 3.3.1, journalistic logic is first contrasted with scientific logic using Bourdieu's field theory, before Covid-19 is discussed in more detail (3.3.2). In subchapter 3.3.3 the role of scientific experts during Covid-19 is explained in further depth. Afterwards, the research questions are presented (4), followed by a discussion of the method in more detail (5). In the first step, the qualitative expert interview is introduced (5.1). Then the sample (5.2) and the data collection (5.3) are explained.

The sixth chapter is dedicated to the analysis (6). In the first step, the transcription of the interviews is discussed (6.1), before the qualitative content analysis according to Kuckartz is introduced and the category system is presented (6.2). Chapter 7 presents and discusses the results. This chapter is again divided into three sub-chapters for the three research questions (7.1, 7.2 and 7.3). These three sub-chapters in turn have their own sub-chapters in which the results are presented thematically before the research question is answered and the results are discussed. Finally, the key findings of this research are summarised and the limitations of the study are presented in the conclusion, including the identification of further research gaps (8).

2. Media and Experts

The cooperation between media and experts has a long tradition and thus media appearances of experts play an important role in modern reporting (Boyce, 2006). This is because both journalists and media experts benefit from cooperation and the sharing of expertise (Brants et al., 2010). Experts here are various groups of people (politicians, athletes, legal scholars or, as in the case of Covid-19, especially scientists and physicians) who appear as media experts and share their expertise publicly (ibid.). This chapter will look first at the journalist selection process and how journalists choose experts for reporting. Then, it will examine the counter perspective and focus on the motivations of experts to share their expertise publicly in media. Finally, the Theory of Planned Behaviour (Ajzen, 1991), which tries to predict public engagement of experts, will be discussed and media engagement will be defined.

2.1 Journalistic Selection Process

Journalistic sourcing describes the practice of journalists identifying and selecting individuals and experts to share information publicly in media (Berkowitz, 2008). Journalists act as gatekeepers in the selection of experts by granting certain individuals access to share their expertise and not others (Shoemaker et al., 2009). Gatekeeping theory is one of the oldest in social sciences and dates back to Lewin (1997). The theory is continuously being further developed. The core elements of the theory deal with how information is selected, shaped, or planned by journalists (ibid.). Due to the excessive amount of information, this is a necessary process, but the consequence is that only a fraction of the information reaches the consumers (ibid.). Finally, gatekeeping can be related not only to information, but also to the selection of experts who appear in media.

Becker (1967) describes in his primary model of the credibility hierarchy that especially groups of the upper social class are challenged by journalists of traditional media to share their expertise because information from people of higher social classes is perceived as more credible. Hall et al. (2019) state that social hierarchies are the reason why more privileged groups gain access to media and are heard. Hence, these primary sources prove to be particularly legitimate and authoritative (ibid.). However, Schlesinger and Tumber (1999) criticise this theory and argue that the notion of primary definitions

is not unambiguous in all aspects of practice. For instance, different primary sources also get different access to media and the definition of primary sources is inadequate (*ibid.*).

Nonetheless, it seems that journalists by no means draw on all available experts. For example, Goodell (1977) shows that experts who are selected for media appearances have different competencies than those experts who are not in the public eye. Efficient and effective communication with the audience, a relaxed manner of performing and, finally, the ability to translate scientific jargon into plain English are key competencies needed for media appearances (*ibid.*). Accordingly, journalistic sourcing is an active process and journalists make a conscious selection of experts.

Journalistic sourcing has been researched for many years; thus different studies also identify different competencies that are considered necessary for public appearances by experts. Previous studies consider it important that an expert is experienced, is employed by a well-known institution, and can speak clearly. In addition to that, experts should not be too rambling and respond to callbacks from journalists (Conrad, 1999). Moreover, it is understood: "while younger scientists are often most willing to talk with reporters, experts with recognisable names, titles, or affiliations are prized sources. The journalistic ethos suggests that a source should be a 'top guy in the field' to safeguard credibility" (Conrad, 1999, p. 291).

Later studies, however, mention other competencies and view good communication skills, good judgement, decision-making skills, and loyalty as key competencies (Peters, 2013). Nevertheless, it is recognised that not every expert can have all the competencies that would make him or her the ideal type of expert (*ibid.*). Other notable competencies that journalists select for are expertise, prominence, linguistic presentation skills, authentic appearance, accessibility, reliability, and predictability of the statement (Nölleke, 2009).

Overall, three different reasons can be identified for journalists to turn to experts for reporting. First, experts are most often consulted by journalists to verify facts or to provide facts (Boyce, 2006). For this reason, experts may not always be seen in reporting, but they are a valuable source of background information and thus form an integral part of journalists' working lives (Atton & Wickenden, 2005; Croteau & Hoynes, 1994; Levi, 2001). The second reason to use experts for reporting is that they convey credibility. Hence, Manning (2001) says: "the possession of expertise helps news sources to rise up the hierarchy of credibility in the eyes of journalists and helps to ensure that they become regular points of contact on specialist correspondents' beats" (p. 158). Third, Journalists

turn to experts to increase the objectivity of their reporting. Experts are called upon as neutral authorities to comment on and interpret facts and current developments (Huber, 2014). However, the use of expert opinions does not seem to lead to more objective reporting because experts do not only express facts in their media appearances but also partisan and political opinions (Steele, 1995). By having experts comment on current events, journalists protect themselves from criticism and mistakes and shift the responsibility for the written or spoken word to the experts (ibid.).

Finally, what also explains journalists' recourse to experts is that the time factor plays an increasingly important role in journalistic reporting. Due to the competition for topicality and the ever-increasing importance of live reporting to provide the most relevant and latest information, extensive research is becoming almost impossible for many journalists (Imhof, 2003). In this process, journalism is transforming into a moderation of politicians, scientists, and other experts whose statements eventually fill the coverage (ibid.). Consequently, expert sources are a good and quick way for journalists to provide up-to-date reporting without extensive research (Albaek, 2011; Huber, 2014).

Since this chapter was devoted to the journalistic selection process and the factors that make journalists decide which experts they invite for reporting, the next chapter deals with the opposite position. In the following, motivations, and motives of scientific experts to accept media requests and to make their expertise available will be discussed.

2.2 Motives to Engage as an Expert in Media

The motives to make oneself available to media as an expert can have different reasons depending on the profession and role of the expert. This master's thesis focuses only on media experts from the scientific field, which is why only the motives of scientists will be discussed in the following. For other kind of experts see e.g., Gorrell et al., 2020; Groot & Maassen van den Brink, 2019; Wren-Lewis, 2018; Obermaier et al., 2018; Theocharis et al., 2016.

In the first place, this work focuses on scientists from the medical field who provide their expertise during the Covid-19 pandemic. These are in particular virologists, epidemiologists, medical doctors and public health experts. In general, scientists are under increasing pressure to communicate with the public and appear in media, which is

why public science communication is increasingly becoming a priority for scientists (Besley et al., 2017). This is due to the increased force to publish and the feeling of having to generate funds for one's own research (ibid.).

As such, science leaders are reaching out to their peers calling for more public engagement (ibid.). Reasons for the increased public engagement are not only the expanding media ecosystem, but also the erosion of science journalism and the politicisation of scientific issues (European Union, 2002; Holt, 2015). This is because scientific issues are becoming increasingly important, and the communication of these issues can be done particularly well by scientists themselves (Holt, 2015). Consequently, studies show that public communication by scientists is becoming more important in many countries (Bauer & Jensen, 2011; Besley & Nisbet, 2013; Nisbet & Scheufele, 2009).

Although it is primarily journalists who approach experts and try to get in touch with them (Wien, 2014), experts certainly pursue their own goals with media appearances. Thus, three different goals can be considered above all which scientists try to fulfil with their media appearances. First, there is the major goal to establish a relationship with society (Dudo & Besley, 2016). Society plays an important role in funding science and subsequently a good relationship with society is central to generating research funding for one's own research (ibid.). Second, scientists have the vague feeling that they must justify themselves to society, as most experts are paid from public funds. The last goal can be summarised as strategic goal. This includes the hope of obtaining further funding for research through media appearances, as well as the desire to maintain or improve the status of the organisation (Allgaier et al., 2013; Gascoigne & Matcalfe, 1997). Strategic goals also include the pursuit of personal career goals (Wien, 2014).

The image that scientists have of society is likewise central. Thus, scientists "acknowledge a moral obligation to communicate with the public" (Allgaier et al., 2013, p. 426). Through the public communication of research, the public understanding of science should ultimately be improved (Dunwoody et al., 2009). This is because scientists fear that society has little understanding of science and scientific processes (ibid.). Scientists clearly recognise a knowledge deficit in the rather homogeneous society (Besley & Nisbet, 2011), which is why society should be enlightened (Davies, 2008). Consequently, scientists recognise an urgent need to improve citizens' knowledge (ibid.) and wish to allay unfounded fears (Burningham et al., 2007). However, motivations are not linked to national borders, as cross-national surveys of scientists also found that the

two main motives for working with journalists are, on the one hand, more positive attitudes towards science and, on the other, a better-informed public (Peters et al., 2008).

However, it is unclear whether scientists' negative impression of the public's knowledge and ability to engage in scientific issues is directly related to their engagement (Davies, 2008; Moore & Stilgoe 2009; Stilgoe 2007). Although some scientists state in studies that a main motivation to appear in media is this knowledge deficit (Besley, 2015), motivation can in no way be equated with the actual public engagement carried out (ibid.). Just because there is a motivation to make public appearances does not mean that public engagement has taken place (ibid.).

In the following chapter, the Theory of Planned Behaviour will be discussed, which predicts planned behaviour, such as media appearances by scientists, by means of predictors.

2.2.1 Theory of Planned Behaviour

In the previous chapter, the reasons and motivations scientists have for making their expertise available to media were clarified. In this chapter, the motivations will be linked to the Theory of Planned Behaviour, which predicts planned behaviour.

To come to the question of what leads experts to share their expertise in media and to appear publicly, the Theory of Planned Behaviour is explained (Besley, 2015). The fact that experts share their expertise publicly should not be seen as a coincidence, but as planned and conscious behaviour (ibid.). The Theory of Planned Behaviour thereby links attitude and behaviour and has already been used in many different studies dealing with the intentions of scientists (e.g. Besley et al. 2013; Dudo, 2013; Poliakoff & Webb, 2007). The theory originates from the field of psychology but is also one of the most common models in social sciences to predict planned behaviour (Besley et al., 2018).

Ajzen (1991) expresses three predictors in the Theory of Planned Behaviour that predict the willingness of experts to share their expertise publicly. The first predictor is the belief that the media experience will be enjoyable (attitude) (Besley et al., 2018). This is because perceptions of media appearances and the experiences experts have in publicly communicating their expertise contribute to their willingness to appear in media (ibid.). Thus, negative expectations of media appearances have the potential to diminish the enjoyment of science communication (ibid.). These negative experiences can arise from

a variety of situations. For example, some scientists suspect that the public distrusts science (Young & Matthews, 2007) and even believe they detect hostility towards science (Michael & Brown, 2000). The second predictor of the Theory of Planned Behaviour states that there is a belief in being able to carry out the public appearances and to change or influence something with media appearances (efficacy belief) (Wolff, 2021). In addition to the expectations of being able to make a productive impact, this also includes one's own perception of possessing the tools and skills to be able to communicate successfully in public (ibid.). The third predictor is subjective norms and describes the social pressure perceived by the expert to perform public engagement (ibid.). Subjective norms can be divided into injunctive norms (how should one behave?) and descriptive norms (how does one actually behave?) (ibid.). The Theory of Planned Behaviour does not provide a precise explanation regarding whether all predictors are equally important or must be weighted differently.

The Theory of Planned Behaviour has already been applied in various studies dealing with motivations of experts to appear in media (Besley et al. 2013; Dudo, 2013; Poliakoff & Webb, 2007; Yang et al. 2010). In doing so, some studies found confirmatory results for the predictors mentioned in the theory (Dudo, 2013; Poliakoff & Webb, 2007) whereas other studies found predictors that varied from the theory (Besley et al., 2013; Trumbo & O'Keefe, 2001). For example, Poliakoff and Webb (2007) found in a quantitative study that motivation to participate in public engagement is influenced not only by attitudes towards the activity and whether it will be fun, but also by social norms and feelings of efficacy to have the skills to communicate successfully in public, thus confirming the already known predictors from the Theory of Planned Behaviour. A counterexample is the study by Besley et al. (2013), which analysed secondary data from two large surveys of scientists (Advancement of Science (AAAS) in 2009 and Royal Society in 2006). They concluded that, on the one hand, scientists who are mid-career are more likely to engage in outreach than scientists who are at a lower career stage. On the other hand, the perception that a lack of public knowledge is harmful and personal and professional obligations were found to be the main motivations for engagement (ibid.) In other research, Dernbach (2012) asked prominent experts who appear in mass media about their perspective on journalists and found that strategic goals did not serve as a motivation for media appearances. The fact that the experience would be fun was still cited as a reason, hence confirming the predictor *attitude* of the Theory of Planned Behaviour. Peters (2013), however, questions the causality of the factors and argues that

more positive attitudes and motivations of academics may be the result of positive media experiences rather than predictors leading to a media appearance.

Overall, it can be said that numerous works have empirically supported the validity of the Theory of Planned Behaviour, and this is not only because the propositions of the Theory of Planned Behaviour seem self-evident (Ajzen, 2020; Dornbach, 2012). After all, it makes sense that people who have favourable attitudes towards performing a behaviour are also likely to have favourable intentions. And people who plan a behaviour are more likely to do it compared to people who do not plan the behaviour. Thus, studies criticise that the falsifiability of an intuitively plausible theory seems to be difficult (e.g. Ajzen, 2020; Sniehotta et al., 2014). The Theory of Planned Behaviour also contains some moderating and mediating processes that are more difficult to test empirically. However, these background processes will not be discussed in detail in the following, as the processes are not further relevant for this master's thesis (further reading: Ajzen, 2020).

The following chapter deals with the definition of media engagement and how media engagement is understood in this master's thesis.

2.2.2 Definition of Media Engagement

There are various definitions of media engagement and depending on the study, engagement is understood and operationalised differently. Media engagement is also often equated with public engagement (Besley & Nisbet, 2011). Thus, public engagement encompasses various activities that seek to engage citizens for decision support (ibid.). On the one hand, this can be one-sided attempts to convey information, be it through media, advertising, internet, social media or presentations. On the other hand, this also includes attempts to start two-way dialogues (Rowe & Frewer, 2005). Education can also be a part of public engagement if it aims to involve the public in decision-making processes (Besley et al., 2008). Unsurprisingly, media also play an important role in creating opportunities to provide the public with information about initiatives, public meetings, arguments, and outcomes (Besley & Roberts, 2010).

However, not all engagement opportunities are used equally. For example, scientists tend to use the sphere of one-way public communication, disseminating information through, for example, media appearances (Besley & Nisbet, 2011). Engagement is understood by scientists less as dialogue and more as dissemination of

information (*ibid.*). This is closely intertwined with scientists' motives for appearing in media. As discussed in the previous chapter, due to the public funding of research, many scientists see it as their duty to inform the public through media appearances (Petersen et al., 2009). Despite the preference for one-way communication, scientists are still willing to seek direct contact with citizens and start a dialogue. However, this usually remains focused on the dissemination of information (De Boer et al., 2005; Kurath & Gisler, 2009). This is mainly due to the different understanding of dialogue. For example, the public particularly expects factors such as ethics, fairness or even accountability in dialogue, while scientists prefer to make cost-benefit calculations and discuss logic in public dialogue (Besley & Nisbet, 2011; Cook et al., 2004).

Finally, for this thesis, Besley's (2015) definition of public engagement is used to define media engagement: "Public engagement is defined broadly to include any type of planned interaction where scientists communicate with adult non-scientists about science and technology outside of a classroom setting" (p. 2).

In the following, media engagement is understood as planned engagement by scientists in the form of media appearances in newspapers, magazines, television, social networks, radio, and the internet.

3. Relationship Between Experts and Journalists

As discussed in the previous chapters, the use of experts as sources in journalistic reporting is well established and commonplace in journalistic practice (Berkowitz, 2008). In the following chapters, experts and journalists will no longer be considered separately, but the relationship between these two groups will be examined in more detail. Initially, the focus will not only be on scientists as media experts. In the upcoming chapters, politicians and economists will be taken as an example of other groups of experts regularly appearing in media and sharing their expertise. In a next step, scientists and their relationship with journalists will be dealt with more intensively. It will be shown that in the relationship between journalists and mentioned expert groups are some similarities and yet differences.

This chapter is divided into two sub-chapters, each with its own further sub-divisions. First, 3.1 deals with Bourdieu's (1976) field theory, which provides a deeper insight into the different social fields and explains the differences between these fields.

Then experts from different fields (3.2) are discussed and their relationship to journalists, before 3.3 focuses on scientists and their relationship to journalists. Afterwards, the chapter "scientific logic versus journalistic logic" (3.3.1) addresses the relationship between science and journalism. Finally, Covid-19 is discussed (3.3.2) and the special role of experts during Covid-19 pandemic is explained (3.3.3).

3.1 Experts and Bourdieu's Field Theory

In today's society, it is hard to imagine media coverage without experts (Berkowitz, 2008). Especially during the Covid-19 pandemic, scientific experts have taken on a special role, because in crisis there is an increasing need for expert and reliable information (Beck, 1992; Loss et al., 2021). However, it is by no means only scientists who are important as experts for media reporting; experts from other fields are also quite relevant for journalistic reporting. For example, politicians, athletes or economists are also interviewed for their expertise on problems and salient topics in media (e.g. Groot & Maassen van den Brink, 2019; Maurer & Beiler, 2018; Wren-Lewis, 2018). However, the relationship between journalists and experts is increasingly ambivalent and thus often has the potential to hinder cooperation (Brants & van Praag, 2017).

This is mainly due to the different location of the social fields in society. Bourdieu (1976) describes the social system in his field theory and identifies different fields, each of which assumes different functions in society. Bourdieu's field theory is based on the premise that modern society is characterised by a differentiation into relatively autonomous fields (Bernhard, 2010). On the structural level, however, these fields have many things in common (ibid.). For example, each field has its own complex structure that regulates communication, norms, rules, profits, and interactions (ibid.). This is also understood as the "nomos" of the field. This nomos means that there are unwritten laws in the respective field to which all actors acting in the field agree (ibid.). The main goal of this nomos is that the field remains as autonomous and independent of external influences as possible (ibid.). An example of a field-specific nomos is scientific objectivity, which states that science should not be manipulated by religion or politics (ibid.). In politics, for example, the nomos states that politicians are obliged to the voters and that in elections the party with the majority of votes wins (ibid.).

Each field also has its own field interest. This describes what the field is about. If the political field is about domination, the economic field is primarily interested in money and the medical field in health (ibid.). On an individual level, this means that each actor in a field occupies a certain position. However, the positions are by no means static, but relational to the positions of other persons and there is always the possibility of advancement or relegation in the field (ibid.). How high one's individual position ultimately is depends on the amount of capital one possesses (Bourdieu, 1980). According to Bourdieu, there are five different types of capital that a person can possess: cultural capital, social capital, economic capital, symbolic capital, and field-specific capital (ibid.). Cultural capital can in turn be divided into incorporated cultural capital (education, language skills), objectified cultural capital (books, art, certificates) and institutionalised cultural capital (e.g., degrees and academic titles) (ibid.).

Social capital focuses on relationships, cooperation, or group membership. Economic capital is about money and possessions. Symbolic capital includes values such as legitimacy, recognition, assertiveness, or honour (Bernhard, 2010). And finally, field-specific capital describes skills that are specifically necessary in the respective field and are primarily of value there (ibid.).

In most fields, cultural, social, and economic capital play a central role. However, symbolic capital has a special role because it is the sum of the other forms of capital (cultural, social, economic, and field-specific) and thus has the greatest impact in all fields (Bourdieu, 1980). This is because people with high symbolic capital are more often invited to public discourses and their statements are ascribed more legitimacy and credibility (ibid.). In field theory, the boundaries between the different fields are dynamic, change over time and are thus not clearly defined (ibid.).

Despite the versatile application of Bourdieu's field theory in various studies and scientific papers, certain aspects of the theory are criticised. Firstly, there is the criticism that the autonomy of fields is not always given. Bourdieu argues that certain social fields are more autonomous than others (Bourdieu, 1976). Nevertheless, no field can say that it follows exclusively the field's internal rules and can exclude external influences completely. For the fact that even in the most autonomous fields, which include science and art, or their subfields, the boundaries are blurred, and external influences cannot be excluded (Barlösius, 2004). For example, although the field of science is autonomous in the sense that it is difficult for outsiders to access it and that it primarily follows its own rules, science is nevertheless dependent on cooperation with other fields in practice. An

example of this is the public communication of research results in order to generate attention and money for one's own research (ibid.).

Another point of criticism is that Bourdieu's theory assumes a society with divided elites who try to assert the interests of their own field. With this differentiation in the theory, he abandons the idea of a more conspiratorial social elite, since according to Bourdieu field interests are not class interests (Moebius, 2011). Within each field there are in turn different strata. Upper classes have the advantage of getting into top positions and learning the habitus faster than lower class people. Following Bourdieu's logic, it can be assumed that conflicts are always decided in favour of the field. Empirically, however, conflicts between the upper and lower classes are often decided in favour of the class and not in favour of the field (Bremer & Teiwes-Kügler, 2014; Moebius, 2011).

Nevertheless, Bourdieu's theory is applied frequently and helps to classify and describe relationships between people from different fields, as it is also done in this work. In the following, we will now look at different groups of experts who appear in media and make their expertise available. The relationship to journalists is described first before this relationship is classified and explained with the help of Bourdieu's theory.

3.2 Experts From Different Fields

This chapter will focus on experts from different fields who provide their expertise to media. When talking about media experts, we are mostly talking about politicians, economists and scientists who appear in media (e.g. Bauer and Jensen, 2011; Besley and Nisbet, 2013; Besley et al., 2018; Dudo & Besley, 2016; Ekman & Widholm, 2014; Gorrell et al., 2020; Groot & Maassen van den Brink, 2019; Obermaier et al., 2018; Theocharis et al., 2016). For this reason, the following section will focus on these expert groups in order to explain the relationship between journalists and experts in more depth. The connection between experts and journalists can be explained particularly well with Bourdieu's field theory, which is why Bourdieu's theory will be applied. In the following, the focus is primarily on economists and politicians, as scientists will be considered separately in the next chapter. First, the relationship between journalists and politicians will be discussed.

The cooperation between politics and media has a long tradition and is based on a collaboration from which both parties benefit (Brants et al., 2010). Nonetheless, the

relationship has changed over time. For example, the relationship between politicians and journalists used to be described as symbiotic, whereas today it seems to have turned into mutual distrust (Brants et al., 2010; Ekman & Widholm, 2014; Maurer & Beiler, 2018; Van Dalen, 2021). Brants et al. (2010) find three reasons for the negative trend. Firstly, they see the development in developed Western countries from a party democracy to an audience democracy (Manin, 1997), in which political content is less decisive for the success of politicians. Rather charisma, authenticity, empathy, and visible action become prerequisites for successful politics. In this process, media take a central role and decide about the salience of politicians (Brants et al., 2010).

Secondly, it is emphasised that a more market-oriented news order is developing. There is a shift from descriptive journalism to more interpretive journalism due to the increasing individualisation of citizens, and questions are increasingly being asked about "why" rather than "what". Where previously there was no contradiction between the critical observation of politics and the symbiotic relationship, since the evolution towards interpretive journalism, journalists are re-evaluating their role (ibid.).

The third aspect underlying the negative development of the relationship is that the population increasingly questions rational discourse and hence also the role of politicians and journalists in democracy (Brants et al., 2010). This development gives rise to mutual motivations and agendas for journalists and politicians. Politicians are driven by media cynicism and lack of trust in media, while journalists are driven by political cynicism and lack of trust in politicians to do good work (ibid.). This eventually results in mutual distrust and in a tactical game on the one hand and routine interaction on the other (Larsson, 2002). It is no surprise then, that politicians have a critical attitude towards journalists, resulting from the feeling that media want to set the political agenda but then again from the feeling of being treated badly in media appearances (Brants et al., 2010). Due to increasing mediatisation, which Blumer and Kavanagh describe in an early definition as "mediatisation - the media moving towards the centre of social processes" (1999, p. 211), politicians increasingly adapt to media in their public appearances (Brants et al., 2010).

All in all, the interaction between journalists and politicians can ultimately be summarised in four conditions. Firstly, there is a mutual dependency, as both parties depend on cooperation. Secondly, both politicians and journalists are role-driven in the interaction and thus, primarily pursue their own goals. Thirdly, the shared culture determines the interaction and fourthly, there is an increasing openness to conflict, which

leads to the exchange being regulated and controlled by mutual conflict management (Blumer & Gurevitch, 1987; Brants et al., 2010).

Looking at politics and the relationship with journalism from the perspective of Bourdieu's theory, it can first be said that the political field focuses primarily on the resource of political capital, which is a sub-form of social capital (Swartz, 2012). This describes the ability to generate support for individuals or parties and obtain collective resources (ibid.). Moreover, political capital is also a form of symbolic capital, as it requires collective support and trust from individuals (ibid.). This so-called prestige capital is equivalent to a level of awareness and the social perception of being recognised (ibid.). The journalistic field has no clear field boundaries and so journalists have a special role in the political field because they are participants in the political field and have the power to change the field through their political reporting (Bourdieu, 2001).

Now, the relationship between politicians and journalists can be explained mainly by the different types of capital that are targeted. While the political field is particularly concerned with political capital such as collective support and social perception, the journalistic field focuses on journalistic capital, which manifests itself in the expansion of contacts, awards for reporting or additional training (Hanitzsch, 2016). Thus, journalists and politicians can help each other by working together, which results in mutual dependence. If politicians get more attention with the help of reporting and can, for example, appear in media during the election campaign to promote the party, journalists can at the same time expand their contacts and do interesting reporting for the audience (Brants et al., 2010). This also leads to the second point: the fact that both politicians and journalists pursue their own goals is only logical and results from the different types of capital that are targeted. Since the types of capital vary in journalism and in politics, different things are pursued with reporting. It seems only logical that conflicts between journalists and politicians are also increasing. Because journalists base their reporting on news factors (Kepplinger, 2011), this can quickly lead to declining trust and criticism of journalists on the part of politicians (Larsson, 2002). Overall, journalists and politicians benefit from cooperation, but the types of capital they aim for are nevertheless contradictory, which can quickly lead to conflicts (ibid.).

In summary, journalists are part of the political field due to the blurring of the boundaries of their field, in which there are opportunities and dangers at the same time. The participation of journalists in the political field creates a dependency between

journalism and politics, which threatens to change the role of journalists as a critical authority necessary for democracy (Hanitzsch, 2016).

To explain the relationship between media experts and journalists in more detail and to provide another example, we will now look at another important group of media experts and describe the relationship between economists and journalists. Economists are chosen because the relationship between economists and journalists shows several similarities to the relationship between scientists and journalists.

When it comes to economic issues, there is a special relationship between journalists and economists. This is because although economists are the experts on economic issues, journalists rarely draw on the expertise of economists who work in the private sector (Wren-Lewis, 2018). In this regard, economists are primarily selected because of their ability to tell stories that are recognised by the customers of the company in question (ibid.). These stories are primarily short explanations of why and how the market is changing. Economic expertise, however, tends to take a back seat in media appearances (ibid.). The quick availability of economic experts also makes them more attractive to media (ibid.). There are primarily two reasons why economic experts are contacted by media: to present their own research results and to comment on current social issues. For example, a finance specialist tells something about the banking crisis, while an economics professor comments on current issues around education or healthcare (Groot & Maassen van den Brink, 2019).

In general, economists strive to appear in media and put their academic work on hold to do so (Groot & Maassen van den Brink, 2019). This is because economists believe that there are many topics on which their expertise is needed (ibid.). In addition to specific economic topics, this also includes macroeconomic assessments or topics that affect the prosperity of society as a whole (ibid.). Consequently, economists do not usually tend to turn down media requests and do not shy away from multiple media requests (ibid.). As Fourcade et al. (2015) state:

"Thus, most economists feel quite secure about their value added. They are comforted in this feeling by the fairly unified disciplinary framework behind them, higher salaries that many of them believe reflect some true fundamental value, and a whole institutional structure - from newspapers to congressional committees to international policy circles - looking up to them for answers, especially in hard times". (p.110)

This is done on the one hand to impart knowledge and on the other hand to generate attention (Tirole, 2017). In addition to their own motivation to share their expertise, there is also pressure from the public to appear in media. Hamermesh (2004) summarises:

"Professors in public universities - the large majority of economists - have a direct obligation to use their knowledge on a broader stage: They are paid by the public, and it behooves them to try to educate the entire public, not merely the subset who are their students, in whatever way they effectively can." (p. 371)

As society is the main funder of economic research, accountability in the form of public engagement is increasingly demanded from economists (ibid.). Similarly, journalists and economists also benefit from cooperation, as also reported in the previous chapter. Economists can provide knowledge and insights from current research and in turn benefit from media attention (Groot & Maassen van den Brink, 2019). In doing so, economists increasingly adapt to the logics of mass media and make their role, as they appear, dependent on media (ibid.).

If we look at economists from Bourdieu's perspective, the economic field is the one in which the primary currency is money. However, economists who appear in media are not classically assigned to the economic field, but are often found in several fields due to their frequent position as e.g., university professors (Tirole, 2017). Yet, economists can only be partially assigned to the field of economics, as the economic field is classically dominated by institutions such as e.g., banks. Therefore, it seems to make more sense to assign economists to the economic field as well as to the scientific field. Scientific capital as a form of symbolic capital is important here, as is money as the capital type of the economic field (Hanitzsch, 2016). The more detailed description of the scientific field and scientific capital will be discussed further in *3.3.1 Scientific logic versus journalistic logic*.

As already described in the previous chapter, journalism focuses particularly on journalistic capital, while economists strive for publications and prestige. These are two different types of capital that do not contradict each other and thus, create good conditions for cooperation from which both benefit. Because the goals can be combined well, there is less potential for conflict between economists and journalists than in the case of cooperation between politicians and journalists. Nevertheless, there is a mutual dependency, just as there is between politicians and journalists, because on the one hand economists want to promote their research but are dependent on journalists. On the other

hand, journalists need economists as sources of expertise for their reporting and must maintain their contacts (*ibid.*). In addition, the peculiarity of economists is that they are often funded by public money and consequently there is a perceived obligation to appear in media - a motive that can also be found among scientists in the next chapter. In summary, it can be said that economists and journalists, like politicians and journalists, are interdependent, but that cooperation is quite possible, which is particularly justified by the similar pursuit of goals (Groot & Maassen van den Brink, 2019; Hanitzsch, 2016).

Since two groups of experts who regularly make their expertise available to the media have been outlined as examples, scientists and their role as media experts will now be discussed, since this work focuses on scientific experts as media experts.

3.3 Scientists

The relationship between journalists and scientists has already been described numerous times (e.g. Dernbach, 2012; Peters, 2008; Peters et al., 2008; Weingart, 2001) and shows several parallels to the relationship between journalists and experts from other fields, although clear differences also emerge.

It can be said that scientists, like politicians, have a rather critical attitude towards journalists. For example, scientists see the responsibility for possible failures not only in society, but also in media. They argue that media is primarily to blame for influencing and manipulating the public through excessive sensationalist and biased reporting (Besley et al., 2018; Blok et al., 2008; Burchell, 2007; Dernbach, 2012; Young & Matthews, 2007). Media are seen as institutions that interpret science according to non-scientific values. Thus, media are accused of spreading scientific uncertainties and creating conflicts in the public (Young & Matthews, 2007).

In doing so, scientists recognise that there is a media logic that media follows. The term media logic first appeared in the 1970s and was coined by Altheide and Snow (1979). They describe media logic as a kind of "format", which in turn defines how the grammar is, how the material is structured or what the style of media communication is like (Altheide & Snow, 1979, p. 10). It focuses primarily on the aspects of organisation, selection, and preparation of information (Altheide, 1995). Media logic is therefore not only a way of reporting, but also an interpretation of social and political phenomena

(Rödger, 2008). This knowledge of how media work is learned by scholars (SIRC, 2001). This media literacy can also be found among economists, as discussed in the last chapter.

Thus, scientists understand that journalists follow a media logic, but still differ in their content and in the quality of their reporting (Besley & Nisbet, 2011). For example, in a qualitative interview, scientists express that they have encountered both qualified and unqualified journalists in their media appearances and that it does not depend on the medium whether the journalists are reliable (Dernbach, 2012). This is because one finds both good and bad journalists in all media (*ibid.*). Furthermore, media literacy varies between people, and it can be observed that people who appear or are in contact with media more often also have better media literacy than people with less media experience (Biermann, 2013).

Here, again, four different types of scientists who differ in the way they deal with media can be identified. First, there are the scientists who are telegenic and want to be interviewed by journalists on a regular basis - here is a positive relationship between journalists and scientists (Dernbach, 2012). The second type manifests itself in the fact that scientists themselves are active as authors, create podcasts, present programmes or write blogs (*ibid.*). The third group in contrast completely rejects media appearances (*ibid.*). The largest group, however, is made up of scientists who do not impose themselves on media but tend to respond positively to media enquiries (*ibid.*). In addition, studies indicate that there is a gender bias in dealing with media enquiries: female scientists tend to be more reticent than male scientists in dealing with media enquiries if they feel they are not one hundred percent competent in the subject area (*ibid.*).

Nevertheless, scientists, just like politicians and economists, depend on the cooperation with journalists. And so, a mutual dependency arises between scientists and journalists, as on the one hand scientists want to present their research publicly and share their expertise, and on the other journalists need up-to-date and trustworthy sources (Besley et al., 2018; Groot & Maassen van den Brink, 2019).

However, the problem is that scientists often lack the ability to communicate effectively with journalists. Effective communication about science is difficult, especially due to the specific field of science, which is classically not an easily accessible field (Petersen et al., 2009). Peters (2013) explains the difficulty of communication between journalists and scientists by the fact that both speak a different language and pursue different goals with media appearances. While scientists use media appearances to generate public legitimacy for their own research and to acquire research funding,

journalists use scientists not only to find interesting content for broadcasts, but they also use scientific experts because they act as valuable primary sources having the current status on scientific topics such as Covid-19 (ibid.). There is a parallel here to the relationship between journalists and politicians respectively journalists and economists. For the different pursuit of goals and yet mutual cooperation with journalists is also found in other expert groups.

The problem of communication between journalists and scientists is also because experts, and especially scientists, regard their expertise as neutral and are frustrated by journalists' attempts to sell what are actually relative statements as absolute statements (Boyce, 2006). Scientists particularly want to focus their communication on the critical questioning and reflection of knowledge and non-knowledge (Nordmann, 2012).

In this context, the problem of scepticism towards media exists especially among scientists who are less active in media. Scientific colleagues who have more media experience show more trust in media (Bentley & Kyvik, 2010; Gascoigne & Matcalfe, 1997; Poliakoff & Webb, 2007; Thiele, 2021). Scientists see other obstacles to working with journalists as the frequent commercial agreements, as well as time pressure and lack of access to qualified journalists (Gantenberg, 2018; Gascoigne & Matcalfe, 1997). However, communication between scientists and journalists has improved in recent years, especially due to more professional communication by public relations departments in scientific institutions (Dernbach, 2012; Gantenberg, 2018; Thiele, 2021).

Gascoigne and Matcalfe recognised as early as 1997 that for scientists, communication through media is an optional and not a necessary activity, and scientists view their own media activity as either neutral or negative for their own professional promotion. This has changed however, as it is becoming increasingly important for scientists to appear in media. According to the motto "publish or perish" (Gornik, 2004, p. 234), there is an increasing pressure for scientists to show publications and to make these results present in media (Bauer and Jensen, 2011; Besley and Nisbet, 2013; Besley et al., 2018; Dudo & Besley, 2016). Additionally, there is pressure for some scientists to give media appearances, as many scientists are employed by universities and thus funded by public money (Besley et al., 2018). This public financing can be found again among economists.

Now it seems reasonable to assume that there is not a good relationship between journalists and scientists. Yet, Peters (2013) emphasises that despite difficulties in working together, a gap between journalists and scientists does not exist - unlike with

politicians and journalists, between whom a gap is certainly recognisable. Journalists and scientists can work well together and both benefit from the collaboration. On the one hand, scientific expertise functions as a source of public and media interest in current affairs; in return, media attention can offer science public legitimacy (Weingart 2003; Peters et al. 2008). Moreover, professors still benefit in society from an increased credibility attributed to their statements (Dernbach, 2012).

Media appearances of experts have a special feature here. This is because science communication operates in two different arenas: internal science communication and external science communication. These are structured by different institutions and are subject to different rules (Peters, 2013). While internal science communication corresponds to the usual environment of scientists, the public arena is structured by journalistic mass media. As a result, scientists must adapt to the logic of the mass media in their public science communication (*ibid.*). This is because TV requires a reduction of complexity and so, science is rebuilt in terms of time as well as social and factual aspects in order to make the content accessible (Dernbach, 2012).

Media are of central importance for communication in society and not only describe current processes in their reporting, but other social fields are also oriented towards media and their logic (Altheide & Snow, 1988; Donges & Imhof, 2005; Rödder, 2008). Medialisation does not only describe the structural changes in the media, but also other social fields, which in turn react to the changes in the media. Thus, causes, reactions and repercussions are included (Rödder, 2008). Schulz (2007) says: "medialisation goes beyond a simple causal logic dividing the world into dependent and independent variables" (p. 90). This medialisation of science (*ibid.*) does not only take place among scientists, but can also be observed among politicians and economists, who adapt their public communication to the logic of mass media (e.g. Groot & Maassen van den Brink, 2019; Larsson, 2002).

Despite the wide-ranging research on scientists as media experts, researchers say that little is known about how scientists interact with journalists and how diversity within journalistic media is perceived by scientists (Besley & Nisbet, 2013; Beyley et al., 2013; Dunwoody, 1999; Editorial, 2004; Gunter et al., 1999; Petersen et al., 2009; Reed, 2001). Although some studies deal with the scientific perspective on journalism (e.g. Dernbach, 2012; Peters, 2008), there is a lack of research that addresses how scientists perceive media logic, what scientific experts understand by media and how they differentiate them. Studies on the relationship between journalists and scientists mostly focus on the general

relationship and do not distinguish between different media. Especially the perspective of scientists, who have the status of a "source" in media, is missing (Petersen et al., 2009).

In the following, the scientific logic is contrasted with the journalistic logic using Bourdieu's field theory to explain the relationship between scientists and journalists in more detail.

3.3.1 Scientific Logic Versus Journalistic Logic

If we now look at media and science from Bourdieu's perspective of field theory (1976), it quickly becomes apparent that the relationship between scientists and journalists can be explained by the different structuring of their fields.

Bourdieu describes the scientific field as a normal social field and thus rejects the frequently formulated claim that science has a unique or special position (Barlösius, 2011; Bourdieu, 1998). Scientific structures consist primarily of scientific institutions, instruments, publishers, and journals. Bourdieu (1998) says:

"One of the strangest peculiarities of scientific fields is that they owe their autonomy to a considerable extent to the fact that they are maintained by the state, i.e. that they are entangled in a dependency of a special kind (...). This dependence in independence (or vice versa) always remains ambivalent because the state, where it secures minimum conditions of autonomy, is also able to enforce constraints" (p. 48).

Since the scientific field is also subject to its own rules, it also has its own internal constraints, such as the reputation system or the differentiation between different disciplines (Barlösius, 2011). These constraints establish the internal logic and structure of the field. In particular, the autonomy of the scientific field plays a major role, because due to its relative autonomy and public funding, science faces the challenge of implementing external constraints according to field-internal rules (ibid.). This also explains the willingness and motivation of scientists to appear in media and make their expertise available. In addition, as in any other social field, there is also a struggle for power in the scientific field, and attempts are made to accumulate scientific capital (ibid.). The scientific field cannot be clearly assigned to any form of capital but is basically a type of symbolic capital. A distinction is made between two types of scientific capital: pure and institutional capital. Pure capital corresponds to field-specific capital and

describes the scientific nomos (ibid.). Through publications, inventions and contributions to scientific advancement, conditions are created to be recognised as good scientist (ibid.).

The institutional chapter results from scientific reputation and includes holding a leadership position or involvement in commissions. This creates a position of power and ensures "statutory authority" (Bourdieu, 1992, p. 149). However, the accumulation of both types of capital is difficult to achieve, as both forms of capital exist only theoretically in their pure form (Barlösius, 2011).

Scientists cannot be assigned to just one field. This thesis deals with medical experts and so the experts interviewed for this work can also be assigned to the medical field. In the medical field, the most important capital is health. Thus, in the medical field, one particularly wants to achieve health for patients (Bourdieu, 1998). It can therefore be said that the boundaries of medical scientists are blurred and that they operate both in the scientific field and in the medical field.

Compared to the academic field, the journalistic field is not a large field that Bourdieu articulated directly in his theory but that emerged as a sub-field (Hanitzsch, 2016). The journalistic field also has its own structure and follows its own rules (Hanitzsch, 2007). For example, journalists are guided in their news selection by news factors (Hanitzsch, 2016). A clear localisation of the journalistic field is difficult, as the field boundaries are permeable and unlike in other social fields, there is little codification (ibid.). Due to the blurring of boundaries, journalists also become part of other fields, such as the political field, as already discussed in chapter 3.2 *Experts from different fields*. In general, the field-specific logic is derived from the values of Western culture (Kovach & Rosenstiel, 2001) and includes objective reporting, independence, topicality and acting in the public interest (Deuze, 2005). However, this nomos is found to varying degrees in different journalistic fields, which contributes to an additional blurring of the field's boundaries (Hanitzsch, 2016). The increased use of communication possibilities via the internet reinforces the phenomenon (ibid.).

Journalists are not only interested in one type of capital. For example, they need incorporated cultural capital in the form of journalistic education already at the beginning of their career (ibid.). However, cultural as well as social and symbolic capital can be expanded over time. Measures are taken to succeed in the journalistic field by cultivating contacts, additional training, or awards (ibid.). As discussed in previous chapters, there is also a need for journalists to work closely with many other fields and to maintain contacts, which can create interdependence (ibid.). The accumulation of cultural, social, and

symbolic capital in the journalistic field is often referred to as journalistic capital (Meyen and Riesmeyer, 2009; Schultz, 2007).

Overall, the good and effective cooperation between journalists and scientists can be explained by the fact that the types of capital sought by journalists and scientists do not contradict each other and thus enable good cooperation - similar to economists and journalists. Nevertheless, there is a mutual dependence in that cooperation is inevitable in order to obtain these types of capital. If we now compare these two fields, it seems that science communication forms an interface between the scientific field and the journalistic field. The field boundaries of journalism are blurred, and science communication cannot be clearly assigned to either field. Thus, scientists communicate publicly to gain scientific capital and ultimately prestige (Dernbach, 2012). Due to the relative autonomy and public funding of the scientific field, there is also the challenge of implementing public constraints, such as media requests. But public science communication also makes sense from the journalists' point of view (*ibid.*). Because of the journalistic *nomos* and striving for topicality and objectivity in reporting, professional journalism benefits from the expert opinions of scientific experts (*ibid.*). In addition, the appearance of scientific experts increases the credibility of reporting, and personalisation also results in more emotional reporting (*ibid.*). Finally, this cooperation cannot only be reduced to scientists, but also applies to other groups of experts, such as politicians and economists. Especially journalists who have a high journalistic capital, can rely on the cooperation with experts in their reporting (*ibid.*).

All in all, many parallels can be found in the relationships between different experts such as politicians, economists and scientists to journalists. All expert groups work regularly with journalists and the relationships are characterised by mutual dependence. In addition, the motive of wanting to appear in media is found among all experts since all of them pursue their own goals with their media appearances. In the case of economists and scientists, an additional reason is public funding, through which these expert groups feel obliged to share their expertise publicly. Contradictory to the cooperation between journalists and politicians, the cooperation between journalist and scientists and respectively economists usually works well because the types of capital sought do not contradict each other and hence both parties benefit from the cooperation.

Now, that the relationship between journalists and various groups of experts has been discussed in detail, the following chapters will focus on Covid-19 and the role that scientific experts play in the Covid-19 pandemic.

3.3.2 Covid-19

Covid-19, also known as the corona pandemic or corona epidemic (Velavan & Meyer, 2020), is a pandemic that originated in Wuhan, China, in December 2019. The rapid spread of SARS-CoV-2 (severe acute respiratory syndrome coronavirus type 2) prompted lockdowns and restrictions worldwide to contain the spreading of the virus (ibid.).

In Austria, the first Covid-19 case occurred on 25 February 2020, followed by other cases linked to ski tourism (Czypionka et al., 2020). Eventually, the virus spread rapidly throughout Austria. In Austria, disease control lies with the federal government, which is why a unified policy response was possible. Thus, travel warnings were issued and restrictions on public life were imposed (ibid.). On 14 and 15 March 2020, the National Council passed a package of measures that permitted citizens to leave their homes only under four conditions. Firstly, to go to work, secondly, to look after other people, thirdly, to buy essential goods and fourthly, to go for a walk or to engage in sporting activities such as jogging or cycling (ibid.).

In the beginning, the government received a lot of encouragement for the quick response to the pandemic, but as time went by, it was increasingly criticised for the opaque decisions. In total, there have been four nationwide lockdowns in Austria up to the publication of this thesis in March 2022, affecting the entire social life. In mid-November 2021, the government announced compulsory vaccination from 1 February 2022 (ibid.).

During Covid-19, containment of the virus depends largely on the behaviour of society (wearing a mask, social distancing, keeping a distance) and so public communication of risks and measures resulted in a special position (Loss et al., 2021). Finally, the Covid-19 pandemic led to an excess of official communications, media reports and expert opinions assessing the situation (ibid.).

Reporting takes place at different levels: journalists and politicians as well as scientists report on current developments. In addition, communication is increasingly taking place via social networks (ibid.). The confusion of information ultimately leads to the challenge of filtering out relevant and trustworthy information (ibid.). Especially in social media, there is an increase in speculation and false reports, which is why the Covid-19 pandemic is also referred to as an "infodemic" or even "misinfodemic" (ibid.). The way out of this "infodemic" can ultimately only happen through professional education

and combating misinformation. Consequently, the transfer of knowledge between society, science, media, and politics must be improved (ibid.).

3.3.3 Special Role of Scientific Experts During Covid-19

Before discussing the role of scientific experts during Covid-19, the role of scientific topics in general should be explained first. This is because the relevance of science in society continues to grow, so that a "scientification of society" (Löffelholz & Rothenberger, 2016, p. 684) is taking place. Science and technology issues have repeatedly proven to be one of the most important issues for society in the past decades (Dernbach, 2012; Eurobarometer, 2021). Especially during Covid-19, interest in science has intensified as the virus and measures to contain the pandemic dominate everyday life (Czypionka et al., 2020).

Despite the increasing relevance of scientific issues in society, there is a tendency towards anti-intellectualism (Merkley, 2020) and scientific scepticism in many countries, including Austria (Mede & Schäfer, 2020; Rutjens et al., 2021). Studies show that Austria has a poor image of science compared to other countries (Freistetter, 2021). Especially in highly politicised topics, such as Covid-19, this scepticism and mistrust towards science is increasing and has the potential to reduce the quality of reporting on Covid-19 (ibid.). Nevertheless, trust in science is high compared to other institutions in Austria (Algan et al., 2021; Funk et al., 2019; Gil de Zuñiga et al., 2019; Wissenschaft im Dialog, 2020). This trust in science can be explained by the fact that science plays an important part in overcoming the pandemic and science is thus trusted more than in times when there is no crisis and the public relevance of science and technology is lower (Dohle et al., 2020). Hence, the public demands that medical experts be included in political decision-making processes. On the other hand, journalists are expected to provide clear and definitive information by referring to scientific expertise as there is an increased demand for reliable information in times of crisis (Post et al., 2021).

Consequently, researchers see the solution to satisfy the demand for science-related information in the fact that information transfer to the public is increasingly carried out by experts (Görke, 2016). Scientists would meet and perform the expectations placed on science journalism (Löffelholz & Rothenberger, 2016).

This popularisation of science compares journalistic and scientific activities and justifies the comparison in that there are diverse parallels between these two fields: "Science lends itself to a comparison with journalism because there are numerous parallels between journalism and science. Members of both professions deal with the representation of reality" (Kepplinger, 1992, p. 135). Because both fields deal with the representation of reality, experts have the role of supporting journalists in their science communication. Thus, there is increasing pressure on scientists to appear in public and to raise their profile on scientific issues. Especially in sub-areas that are relevant for the public and society, an increased pressure of expectations on scientists is evident (Löffelholz & Rothenberger, 2016). "If scientific topics are new, especially (...) momentous for citizens, then it can be assumed that the systems providing the resources have a high interest in helping to determine the public debate on a topic" (Gerhards & Schäfer 2006, p. 23).

From this "scientification of society" (Löffelholz & Rothenberger, 2016, p. 684), the role of scientists during Covid-19 can now also be derived. Scientists have gained prominence as sources, leading to coverage that is pegged to media appearances by scientists (Albaek et al., 2003; Nölleke, 2013; Wien, 2014). This visibility of scientists through news media led to a "scientist personality cult" during Covid-19 (Wormer, 2020). For such a topic relevant to society is also Covid-19, which is why scientific experts have a special role as they are a central source of trustworthy information for media reporting and are increasingly requested for media appearances. During public health crises, there is intensified concern about one's health, triggering increased demand for health-related and actionable information (Loss, et al., 2021). The increased demand, in turn, creates high-frequency health-related news coverage (ibid.). However, in order to reach people in times of crisis, certain criteria must be met in communication. There are four different theories that describe these criteria.

For example, Mental Noise Theory describes that people under stress have difficulty understanding information, so information needs to be understandable, clear, well-structured, and often repeated (Covello et al., 2007). The Trust Determination Theory describes that it is necessary to build trust for effective communication. Thus, competence, empathy and transparency are particularly central factors here (Covello, 1993; Chapman & Wutzke, 1997; Malecki et al., 2021). The Negative Dominance Model assumes that people in a crisis, when they are angry, tend to focus on negative information. Hence, communication of the possible dangers along with solution-oriented

messages is also necessary (Covello & Sandman, 2001). Finally, the Theory of Risk Perception assumes that dangers are not perceived rationally, but correlate with certain outrage factors (e.g., helplessness) (Chapman & Wutzke, 1997; Malecki et al., 2021; Sandman 1987; Sandman, 1993). In summary, there is a need for clear, well-structured, and comprehensible information that is communicated competently, transparently, and empathically and repeated regularly.

In times of crisis, particularly good and conscious communication is necessary which is why experts in particular take over public communication and share their expertise (Loss et al., 2021). The communication of risks involves several challenges and problems, and the experts ultimately have several tasks in times of crisis, as during Covid-19. First, trust and credibility should be created by communicating accurate information in a timely and comprehensible manner. Especially in times of crisis, there is an increased scepticism towards authorities, which is why communication by knowledgeable experts is necessary (Gamhewage, 2014; Reynolds, 2011; WHO, 2017).

Second, in public communication, experts should not only inform about what is known, but also be transparent about what is not yet known. As the state of knowledge is always changing, the correct formulation of prevailing uncertainties is necessary (Wegwarth et al., 2020; Zhang et al., 2020). The population should feel adequately informed (van der Bles et al., 2019).

Third, in times of health threats, there tends to be an emotional mood in society, characterised by anger, fear and uncertainty (Lundgren & McMakin, 2009). Thus, appropriate communication of risks is necessary, but without fuelling further and unnecessary fears (Loss et al., 2021).

Fourth, different groups in society must be included in the communication. It is particularly advisable to consider vulnerable groups who often do not feel included (Macintyre et al., 2019). Especially the exchange between different experts is helpful because this way a consistent communication can be agreed upon. Inconsistent communication leads to mistrust in society (Reynolds, 2011).

The last task for experts is a consistent evaluation of the communication measures, including observation of the reactions in society. This is because communication is dynamic and societal reactions can change rapidly, for example due to misinformation (Garhemwage, 2014; Zhang et al., 2020).

During Covid-19, coverage of Covid-19 is the most important topic for media and scientific experts are the most popular group of experts for media (fög, 2021; Wormer,

2020). Here, virologists, epidemiologists, medical doctors, and public health experts in particular take on this role as media experts, as there is great uncertainty about the virological and epidemiological aspects of the virus and trustworthy expert opinions are needed (Acuti Martellucci et al., 2020). Most people in Austria inform themselves about current events such as the Covid-19 pandemic especially via traditional media and thus, primarily encounter scientific experts there (Lebernegg et al., 2020). Knowledge about symptoms, risk factors for severe courses and containment measures only evolves over time, and this is also one of the problems of public science communication (ibid.). After all, science is not an easily accessible field for society and requires good and simple communication from experts to make the complex issues accessible to society (Loss et al., 2021). Also, the constant revision and adaptation of statements, as knowledge about Covid-19 is always changing, is problematic and difficult for the average educated citizen to understand (ibid.).

In summary, scientific experts play a special role during Covid-19, which is characterised by increased media attention and social relevance (Acuti Martellucci et al., 2020). Through their activities in the specific field of e.g., epidemiology and virology, they become mediators of information and partly take on advisory functions for politics (Wormer, 2020). They take on the task of competent communication of information just described and contribute to trustworthy reporting. Due to the increased attention for science and scientists and the increased media requests made to them, there is even talk of a "cult of scientists" (Wormer, 2020, p. 468) during Covid-19. Consequently, the role for scientific experts during Covid-19 is central as they communicate in public and media about current events, risks, and measures (Loss et al., 2021).

4 Research Questions

During Covid-19, media coverage focused on Covid-19 and thus the communication of measures, risks and treatment of the coronavirus came to the fore (Loss et al., 2021). Not only did traditional tabloid and quality media report on Covid-19, but also numerous online blogs and social media sites increasingly dealt with the topic (Acuti Martellucci et al., 2020). The Covid-19 pandemic leads to an overabundance of media reports and messages, so that eventually one speaks of an "infodemic" or even

“misinfodemic” (Loss et al., 2021, p. 296) which is characterised by a confusion that makes it difficult to filter trustworthy information (Loss et al., 2021).

The literature shows that scientists can certainly recognise differences between media and can identify differences in quality as well as understand that media follow their own logic (Besley & Nisbet, 2011; SIRC, 2001). Thus, the relationship between journalists and scientists has already been investigated in several studies (Besley et al., 2013; Dernbach, 2012; Peters, 2008; Peters et al., 2008; Weingart, 2001), yet most studies refer to the relationship in general and the experts' evaluation of their own media appearances. Only a few studies go into detail and try to get a deeper understanding of how the relationship between journalists and scientific experts is formed (e.g. Dernbach, 2012; Peters, 2008). Especially the perspective of expert sources on journalism is missing in studies to date (e.g. Besley et al., 2013; Besley et al., 2018). However, during Covid-19, scientific experts have been increasingly requested by media due to their expert role, have made their expertise available (Loss et al., 2021) and gotten a new perspective on media through their regular media appearances (Wormer, 2020). The Covid-19 pandemic has allowed them to gain more experience with a wide range of media and journalists and may have allowed them to identify differences between different media (Acuti Martellucci et al., 2020; Loss et al., 2021). Therefore, the Covid-19 pandemic provides the perfect opportunity to further explore the scientific perspective on journalistic diversity. Because of the excessive coverage of Covid-19 and the present role of scientific experts, scientists have never been more publicly present than now. For this reason, the following research question is raised to further discover scientists' perceptions of media and media diversity:

RQ1: To what extent are scientists aware of the diversity of media?

The subject area of Covid-19 is classically virology and epidemiology, thus many scientific and medical experts appeared in media during the pandemic to share their expertise (Loss et al., 2021). In doing so, they gained experience with different media and journalists and their reporting. As described in previous chapters, trustworthy and secure communication of information is especially important in times of uncertainty, such as during Covid-19, as it determines the behaviour of the society (ibid.). Consequently, proper communication is a "matter of life or death" (Krause et al., 2020, p. 2), highlighting the relevance of trustworthy public communication. Nonetheless, there is the problem

that knowledge about symptoms and risk factors only develops over time, making public science communication difficult (Lebernegg et al., 2020). Due to the difficult-to-access field of science and the constantly changing information on Covid-19, communication is made more difficult for experts (Loss et al., 2021).

While many experts themselves appeared in media to share their expertise, the responsibility for the final reporting lies with the journalist, who follows his or her own rules and logic (Besley & Nisbet, 2011). So, while experts can make an effort in their public communication, journalists are ultimately responsible for how the issue is presented (ibid.).

In general, reporting of quality media tends to be rated better than tabloid and online media (Korte & Dinter, 2019; Magin, 2020). Moreover, studies show that experts do recognise that media follow different logics, create different content and that quality in media content can vary (Besley & Nisbet, 2011; Besley et al., 2016). Thus, experts seem to have a certain media literacy and are able to differentiate and evaluate media content (Rödter, 2008; SIRC, 2001). Furthermore, the evaluation of the reporting is related to one's own media consumption (Taddicken & Neverla, 2011), but is also related to the role of the experts. Hence, reporting by experts in the field tends to be viewed more critically than by laypersons (Antony & Pfadenhauer, 2019; Meuser & Nagel, 2002). Especially when it comes to sensitive and socially relevant topics, the evaluation of reporting by experts is often stricter (Loss et al., 2021).

Experts have taken on a special role in the pandemic and have acted as media experts and shared their expertise (ibid.). As a result, they have a special perspective on the Covid-19 pandemic and perceive media and their reporting differently than laypersons do (Magin, 2020). By working closely with journalists, scientists contribute to the reporting process. This research question aims to investigate how scientific experts evaluate the implementation of scientific information provided by experts in the final reporting. For the final responsibility for reporting always lies with the journalist (Besley & Nisbet, 2011). Consequently, it can be assumed that the scientists who have appeared in media as experts are best placed to assess how the topic of Covid-19 is presented in reporting.

This research question continues research question 1 and goes into further detail by asking how different media have dealt with Covid-19 according to expert opinion:

RQ2: How do scientists evaluate the way different media deal with Covid-19?

Cooperation between scientists and journalists has a long tradition and usually takes place without conflict (Barlösius, 2011; Dernbach, 2012). This is primarily because journalists and scientists benefit from mutual cooperation (ibid.). The profit of cooperation is based on the fact that the types of capital and objectives complement each other and thus facilitate cooperation (Hanitzsch, 2016). Therefore, scientists are important sources and contacts for journalists and are very present in everyday journalistic life.

However, as Covid-19 dominates everyday life and most media report on it daily, scientists get more media enquiries than ever, which means that they cannot answer or even accept all media requests (Loss et al., 2021). Motivations for experts to appear in media have been mentioned in the previous chapters and include e.g. to generate funding for research or use media appearances for strategic personal goals. In addition to personal motivations to appear in media and provide expertise, the Theory of Planned Behaviour tries to be a universally applicable explanatory model and names some predictors that predict the willingness of experts to make a media appearance (Besley, 2015). However, the Theory of Planned Behaviour does not include all factors that have a possible influence on planned behaviour. For example, it does not include selection criteria according to which decisions are taken when too many media enquiries are made.

In addition, scientific experts have received plenty of media requests in the past year and have gained experience with different media (Loss et al., 2021). As already addressed in the previous research questions, studies show that scientists recognise a media logic and have a rough understanding of how media works (Besley & Nisbet, 2011; Rödder, 2008; SIRC, 2001). This perception arises primarily from experiences scientists have with media, which is why the Covid-19 pandemic is well suited to further explore this perceived functioning. This is because, despite previous research on how media is perceived by experts, insights into scientists' perceived functioning of media are not yet well explored. There is no clear explanation of how scientists perceive media, whether they identify a functioning of media and for which media they can identify this functioning.

The following research question aims to gain a better understanding of the relationship between scientists and media. As scientists have had many experiences with media and journalists in the past year, this question will explore whether there is a perceived functioning of media by scientists, and finally how this perceived functioning influences the willingness to appear as an expert in the media:

RQ3: To what extent does the perception of the functioning of the media influence the handling of media inquiries?

5 Methodology

For this master's thesis, qualitative expert interviews with semi-structured guidelines were conducted. For this purpose, experts from different medical professions (virologists, epidemiologists, public health experts, bioethicists, and microbiologists) were chosen who had appeared in Austrian media as media experts during the Covid-19 pandemic and had made their expertise available. The qualitative expert interview in a face-to-face survey was chosen, as the survey focuses specifically on the scientists' own assessment and perspective and should leave room for their own narratives and comments. For this reason, a standardised survey with predefined answer options was not an option.

In the following chapter, the description of the method of the qualitative expert interview will first be dealt with, in which the method itself will be explained before it is described how the interview guideline was created. In the subsequent chapters the sample is presented and then the data collection is described.

5.1 Qualitative Expert Interview

The expert interview is an established method in almost all disciplines of social sciences and is of eminent importance for research practice (Bogner et al., 2014). It can be used for both qualitative and quantitative research designs, although they are more prevalent in qualitative research (ibid.). It focuses particularly on two points: on the one hand, on the reconstruction and interpretation of subjective interpretations and, on the other hand, on the acquisition of information (ibid.).

Already in the early sociology of knowledge, Schütz (1972) emphasised that an expert, in contrast to a layperson, has certain and unambiguous knowledge. This was criticised by Meuser and Nagel (1997) and in the 1990s a distinction was called for between the term expert and the similar terms “intellectual” and “specialist” (Hitzler, 1994). Finally, experts become experts because they not only have knowledge, but this

knowledge also has a practical effect (Bogner et al., 2014). They have a certain competence to construct reality (Hitzler, 1994).

This also gives rise to the importance of expert knowledge. Expert knowledge is not only characterised by coherence and certainty, but also by the fact that this knowledge guides orientation and actions (Bogner et al., 2014). This practical orientation does not only focus on one's own field, but also transfers to other fields. For example, experts advise politicians (ibid.). For this purpose, the explorative expert interview is chosen, in which the expert himself is part of the field of action to be investigated (ibid.).

The expert interview method offers several advantages. This is because both, quantitative and qualitative research projects with expert interviews are suitable for obtaining an overview of a confusing research field (Bogner et al., 2005). Moreover, expert interviews provide unrivalled and dense data collection. Due to the detailed answers of the experts, the interviews have a high information content, which leads to a high yield (ibid.). Experts act as primary sources and share relevant experiences and thoughts in the interviews (ibid.). Another advantage is that through experts, researchers also gain access to taboo subject areas that would normally not be easily accessible (ibid.). In addition, expert interviews can play an important role especially for topic areas that are not yet well researched. Another method for exploring research fields is observation. However, these tend to be more time-consuming and costly than expert interviews, and so expert interviews make it possible to shorten these time-consuming observation processes (ibid.). Likewise, access to expert interviews is facilitated by the organisational structures of institutionalised expertise. Since many experts work at universities or other institutions, access to experts is simplified (ibid.). Another advantage is that the use of expert interviews also facilitates further field access to other experts. For instance, the snowball method, in which experts suggest further experts in the interview, is an established method (ibid.). The last advantage of expert interviews is that mobilisation for expert interviews is easier than for other research methods. For example, the response rates for expert interviews are significantly higher than for standardised questionnaires sent electronically (Bogner et al., 2005; Bogner et al., 2014).

Nevertheless, there are also some disadvantages and challenges with the expert interview. For example, quality criteria in qualitative research are unclear and thus complete documentation of the research process is necessary in order to track whether the processing of the research question was successful (Bogner et al., 2014). It is therefore essential to define the type of expert knowledge that is to be obtained, the characteristics

of the anonymised experts, the sample and which experts were not interviewed. This also includes transparent transcription according to clear rules (ibid.).

In addition, one should be aware of research ethics problems in the expert interview. For through the interview, experts are instrumentalised for one's own research purpose (ibid.). However, this does not mean that the interview has no purpose for the experts, because an interview can also have a quasi-therapeutic effect, especially when it is about personal interpretations and interpretations of meaning (ibid.). Moreover, the voluntariness of the interview must be guaranteed. The voluntariness of the interview and informed consent are central and necessary for all research (Kaiser, 2021). Nevertheless, in some cases there may be some pressure to participate in an interview. For example, if an organisation agrees to participate in an interview as a whole organisation, the person is not asked as an individual, but as part of the organisation (ibid.). In addition, there is the problem with expert interviews that anonymisation is particularly difficult with exposed persons and the traceability of statements to this person must be excluded (ibid.).

As already discussed in the chapter above, experts can be clearly defined. Still, there is the difficulty of acquiring the "right" experts (ibid.). This is because there is a misconception that people higher up in the hierarchy also have more important information to contribute. Thus, sufficient, and well-founded research and selection of suitable interview partners in appropriate numbers is indispensable, since expert interviews, like other methods of qualitative social research, also use the principle of theoretical saturation (Bogner et al., 2014).

Additionally, the yield of expert interviews is problematic. Particularly in student research, the total effort of expert interviews is often underestimated, and the rules are not adhered to (Kaiser, 2021). Likewise, the interviews can always develop unexpectedly, and the interview may be aborted, for example. Another point that reduces the yield from expert interviews is that the results are not evaluated and interpreted in a theory-based way after the interviews (ibid.). Finally, there is the risk that individual data is always overrated. For example, the aim of an expert interview is by no means the unreflecting reproduction of individual data, but a content-analytical processing through category formation (ibid.).

In this work, a qualitative expert interview was chosen because the openness of the questions enables a closer exploration of the topic. In this way, it is possible to determine deeper assessments of how scientists view, differentiate and evaluate media.

With the help of these interviews, the question of how this perception affects the willingness to appear as an expert in the media can be approached.

Since expert interviews are a special form of guided interviews, a semi-structured guideline was used for the interview for this work. A special focus was to be placed in the interview on leaving enough room for open questions and stories, which is why the questions were kept open. In addition, when formulating the questions, care was taken to also leave room for unexpected insights to make an inductive evaluation possible for the subsequent analysis. The interview guideline should therefore guide the interview, but not predetermine the content.

The guideline was derived deductively. In the first step, theoretical questions were derived from relevant topics around the role of scientists as media experts. These resulted from the operationalisation of the overarching research questions. The interview guideline contains various topic complexes; this master's thesis refers to only two of these topic complexes. Finally, theory and the state of research were used as heuristics for the creation of the interview guideline to identify relevant topics that should be addressed in the interview. The interview guideline can be found in the appendix of the thesis.

5.2 Sampling

To identify medical experts who were present in media during the Covid-19 pandemic and who shared their expertise, a detailed search was first conducted in the APA-OnlineManager library. This is an archive of all Austrian daily newspapers as well as weekly and monthly journals. In addition, it contains transcripts of information programmes from radio and TV (APA-DeFacto, 2021). In addition, the search was for articles and transcripts that appeared in Austrian media between March 2020 and March 2021. The words "corona expert", "epidemiologist", "virologist", "microbiologist", "public health", "health expert" and "bioethicist" were used as search terms. Since experts who are not medical experts (e.g., politicians) also appeared in the listed articles, and to ensure that only medical expert sources were included in the analysis (for a definition of expert source see Nölleke, 2013), the results were subsequently checked again individually.

Finally, 71 medical experts were identified who appeared as experts in the Austrian media between March 2020 and March 2021. Among these 71 experts, 22 are

women. Theoretical sampling was chosen, in which the sample is not fixed in advance, but results from the cyclical research process of data collection and data evaluation (Steinhardt, 2015). The selection of a sample results from theoretical considerations and focuses on the question of which case selection is most profitable for the research question (Glaser & Strauss, 1998). Since this is a theoretical sampling, participants were finally selected according to criteria from theoretical considerations. Here, particular focus was on ensuring that both female and male scientists should be represented in the sample in equal proportions. Although women are rarely mentioned as an expert source (Prommer & Stüwe, 2020), it is nevertheless important to create an equal distribution of men and women for reasons of research ethics (University of Vienna, 2019). Furthermore, extreme cases should also be included in the sample. Thus, both experts who had few public appearances and experts who had many public appearances were selected. Overall, the snowball method was also used. If an expert recommended another expert in a survey and felt that this expert could contribute interesting insights, the recommended expert was also contacted.

All experts were invited for the survey by e-mail. The e-mail included an official invitation to participate, as well as some information about the study and contact information for further questions. If no response came back from the experts after a week, another reminder email was sent. If there was still no reply after another week, an attempt was made to reach the experts by phone.

As experts during Covid-19 are in great demand for public appearances and receive many media enquiries on the one hand and were busy with their scientific work in the medical field on the other, not all objectives could be met. Thus, an approximately equal distribution of men and women could not be achieved. After all, there are 24 scientists in the sample, 7 of them are women. So, the equal distribution turned out to be unachievable, yet the gender distribution roughly reflects the gender distribution of the expert appearances in the reporting during Covid-19. Of these 24 scientists, 15 persons work at universities or scientific institutions, 5 persons are employed in hospitals as doctors and 4 persons work in the private sector. The number of media appearances ranges from 1 to 81 between March 2020 and March 2021 for the experts surveyed.

5.3 Data Collection

As the social distancing measures did not allow for face-to-face interviews at the time of the survey, it was decided to do video call Interviews via the software Zoom. During the Covid-19 pandemic, Zoom has established itself as an appropriate and good alternative to face-to-face meetings and has thus already been used in various qualitative studies and especially in interviews (e.g. Reñosa et al., 2021; Archibald et al., 2019).

The interviews were conducted in the months of April to June 2021 and had a duration between 30 and 70 minutes. The average interview time was 50 minutes. There are two main reasons for the varying duration between the interviews: firstly, some experts had other appointments and were therefore limited in their time, and secondly, the interview was designed to allow the experts to talk freely. This was easier for some experts than others, which is why the interview time varied between the experts.

There was a semi-structured interview guideline with seven different sets of questions for the interview: “Assessment of the quality of information by media and politics”, “importance of experts in politics”, “reporting on Covid-19”, “perspectives on science communication during Covid-19”, “own experiences as a media expert”, “resonance with expert appearances and science communication” and “outlook”. The guideline contains a total of 30 questions.

This master's thesis focuses on the thematic blocks “assessment of the quality of information by media” and “own experiences as a media expert”. In these two topic areas, questions are not only asked about the assessment of Covid-19 reporting, but also about concrete experiences with journalists and potential sources of conflict with journalists, as well as how to deal with media enquiries. However, since relevant information for the questions can also be mentioned at other points in the qualitative interview, the interviews are analysed in their entirety.

The interview procedure was standardised. At the beginning of the interview, after a brief welcome, the topic of the research was introduced and all information on data storage and anonymisation was presented. Afterwards, it was asked whether the expert agreed and whether there were any open questions. The recording was then started, and the main part of the interview began. During the interview, the guide was followed, but care was taken to ensure that there was enough room for questions and free narration from the interviewees. At the end of the interview, possible questions and comments from the experts were asked again before the interview was ended. In some cases, for the

snowballing process, recommendations were also asked for further interviewees who might have an interesting perspective on the topic. After the interview, any abnormalities were noted, such as technical malfunctions or interruptions by other people during the interview. In addition, it was noted whether the interviewed expert was alone during the interview or whether other people were in the same room. In this way, possible conspicuities in the response behaviour can be identified.

The data was stored on four different media. There was an audio and video file, which is automatically generated when recording via Zoom and sent to the interviewer after the interview. In addition, two other audio files were created, one via recording device and another via mobile phone. The files were then backed up on a laptop. After all interviews had been conducted, the interviews were transcribed and anonymised.

6 Analysis

After the description of the method in the previous chapter, this chapter can now be dedicated to the analysis. In the first step, the transcription of the interviews is described, which was carried out according to the rules of Kuckartz (2016). The second step explains the qualitative content analysis, which was also conducted according to Kuckartz (2012). In addition, the category system used to analyse the interviews is presented.

6.1 Transcription of Interviews

There are different transcription systems according to which a distinction can be made. The first distinction is between simple transcription and complex transcription. While simple transcription is word-accurate, the language is smoothed and hesitation sounds (e.g., "ehm") and word breaks, word repetitions and stutters are omitted. This has the advantage of achieving easier readability and making the content more accessible (Kuckartz et al., 2004).

Complex transcription, on the other hand, does not apply speech smoothing and thus includes hesitation sounds, word repetitions, word breaks and intermediate sounds. This has the advantage that linguistic aspects can also be examined. However, the

readability is poorer, and the content is more difficult to grasp than with simple transcription (Kuckartz, 2016).

In addition, the transcription systems can be distinguished in three further categories. There is the phonetic transcription, the summarised transcription, and the simplified transcription. In the phonetic transcription, the transcription is taken exactly, and dialects and other linguistic peculiarities are also transcribed. Simplified transcription transcribes verbatim and so dialects and other linguistic features are not transcribed. In summary transcription, the words are not transcribed individually, but a summary of what was said is made (Kuckartz, 2016).

The choice of transcription system should be based on the analysis planned later (Kuckartz, 2010). For example, a more detailed transcription is needed for a conversation analysis than for a simple interview (*ibid.*). Since no detailed transcription is needed for the expert interviews conducted, the simple content-semantic transcription system according to Kuckartz et al. (2007) was used for this work. This transcription system expresses ten rules according to which transcription is done (*ibid.*).

Firstly, transcription is literal, dialects are not transcribed. Secondly, the language and punctuation are adapted to written German and thus slightly smoothed. Thirdly, all personal details that allow an inference to the person are anonymised. Fourthly, only clear, and long pauses are marked by ellipsis (...) and the termination of a sentence is indicated by a forward slash /. Fifthly, particularly emphasised terms are marked by capital letters or underlining. Sixthly, the interviewer's affirmative sounds are not transcribed if they do not interrupt the flow of the interview. Seventh, interjections are placed in parentheses. Eighth, sounds that support the interviewee's statement are put in brackets (e.g., laughing or sighing). Ninth, the text passages of the interviewer are marked with "I", the text passages of the interviewee with a clear different designation (e.g., "B"). And tenthly, double paragraphs are inserted between the interviewer's and interviewee's speech for better readability (Kuckartz et al., 2007). This transcription system was chosen because on the one hand, it is particularly suitable for the evaluation of interview data and, on the other hand, it facilitates later evaluation work on the computer (Kuckartz, 2010).

The transcription of 14 of the 24 interviews was done with MAXQDA, the transcription of the other ten interviews was done by a specialised transcription agency. After the transcription, the names occurring in the interview were anonymised and replaced by aliases. In addition, places and dates were changed so that direct conclusions

are no longer possible (ibid.). For this purpose, a table was also created for the author's own decoding (ibid.).

Because the transcription was partly done by a transcription agency, not all interviews were transcribed according to the transcription rules of Kuckartz (2010), as the transcription agency used its own transcription rules. However, this is not a problem for this master's thesis, since a simple transcription is sufficient for the analysis anyway and no linguistic peculiarities are included in the analysis.

6.2 Qualitative Content Analysis According to Kuckartz

In order to analyse the collected data after the transcription of the interviews, a qualitative content analysis was conducted. Overall, there are many different content analyses; the best-known qualitative content analyses include Mayring (2010) and Kuckartz (2012). Both content analyses proceed similarly and focus on a systematic process of content analysis (ibid.).

The most significant difference between these two methods is that Mayring has a theoretical basis, while Kuckartz has a greater focus on the inductive approach to content analysis (Schreier, 2014). In this paper, qualitative content analysis according to Kuckartz (2012) is chosen because it is an extended and modernised form of Mayring's (2010) content analysis. Thus, Kuckartz (2012) takes the basic method described by Mayring even further and also allows for an additional computer-assisted content analysis (ibid.).

Kuckartz (2012) distinguishes between three basic methods according to which one can conduct a content analysis. The first method is content-structuring content analysis, in which statements are summarised and sorted according to categories (ibid.). In evaluative content analysis by contrast, the focus is on the assessment of the statements (Kuckartz, 2016). Type-forming content analysis aims to "search for multidimensional patterns that enable the understanding of a complex subject area or field of action" (Kuckartz, 2016, p. 143, translated from German).

Content-structuring content analysis was chosen to evaluate the interviews. Hence, the interviews were summarised on a linguistic level with the help of categories. This was done with computer support and the MAXQDA software.

In the first step, super-categories were deductively derived from the interview guideline and theory, according to which the material was coded in the first step. Six super-categories were defined. The first super-category is called "Evaluation of

reporting", in which all statements are coded that are aimed at evaluating the media reporting on Covid-19. In this category, statements about the reporting of individual media can be coded as well as statements about the reporting of the Austrian media in general.

The second super-category is called "Differentiation of media". Here, statements are coded in which a distinction is made between different media. For example, quality media versus tabloid media or print media versus radio versus TV. The differentiation of journalists is also coded in this category.

The third super-category is "Handling media enquiries" and contains statements that deal with the general handling of media enquiries. For instance, whether media enquiries are accepted or rejected across the board. Statements can also be coded here in which, for example, it is reported whether enquiries are accepted by certain media and not by other media.

The fourth super-category is called "Perception of the functioning of media". Here, statements are coded in which the perceived functioning of media is discussed. Whether, for example, it is assumed that media follow a certain logic, are guided by news values or a system is recognised behind the media.

The fifth super-category is called "Motivation to appear in media" and contains statements by experts that deal with the pure motivation to make their expertise available to media. Here, the focus is only on the goals and theoretical motivations, because the actual "Inducement to appear in media" is super-category six. In this one, a clear differentiation is made between motivation and inducement because, as already discussed in the theory chapter, motivation cannot be equated with actual engagement (Besley, 2015). While motivation focuses on personal goals and the individual will to share expertise in media, in "Inducement to appear in media" only statements are coded in which the actual causes to appear in media are addressed. The focus here is not on pure motivation, but on identifying what actually triggers experts to appear in media and what actually leads to a media appearance.

After the entire 24 interviews were coded in the first run to these deductively created super-categories, sub-categories were created inductively in a second coding run to further structure and summarise the material. As a sub-category of "Perception of the functioning of media", the category "Dealing with media" was created. This sub-category contains all statements in which it is reported that special behaviour is used in media appearances, for example the use of easy language.

As a sub-category of "Evaluation of reporting", the category "Assessment of experts in media" was created, in which all statements were coded in which the media's treatment of experts is discussed. This can be the evaluation of the range of experts and the selection of experts, as well as the actual treatment during the media appearances.

There are two sub-categories for the super-category "Differentiation of media": firstly, "Differentiation by journalists" and secondly, "Differentiation by media". While in "Differentiation by journalists" the text passages are coded in which a distinction is made between journalists (e.g., reliable versus unreliable journalists), in "Differentiation by media" the statements are coded that differentiate between media (e.g., tabloid media versus quality media).

Finally, another super-category and subcategory were inductively created. The super-category is "Satisfaction with media appearances" and the corresponding sub-category is "Consequences of media appearances". While in the super-category the statements are coded that deal with the subjective experiences with media appearances of the experts, in the sub-category the text segments are coded that include statements about the consequences of these media appearances. An example of this is that experts, according to their experiences, only accept media enquiries from certain journalists or completely reject media enquiries from certain media. But also, for instance, that more media enquiries reach the experts as a consequence of the public appearances is coded here.

Overall, an attempt was made to structure and summarise the material based on these super-categories and sub-categories, so that an interpretation of purely individual data is excluded, and cross-expert findings are obtained. In some cases, it is not possible to assign the statements to subcategories which is why some statements remain assigned to the super-categories. In the content analysis, a total of 468 text segments were coded in the 24 interviews and assigned to the categories. The number of coded segments in the interviews ranges between 12 and 33.

Overall, the category scheme looks as follows. The number after each category is the number of coded statements in that category.

1. Evaluation of Reporting (84)
 - a. Assessment of experts in media (39)
2. Differentiation of media (23)
 - a. Differentiation by journalists (25)
 - b. Differentiation by media (40)
3. Handling media enquiries (26)
4. Perception of the functioning of media (61)
 - a. Dealing with media (49)
5. Motivation to appear in media (30)
6. Inducement to appear in media (35)
7. Satisfaction with media appearances (37)
 - a. Consequences of media appearances (19)

7 Presentation of Results and Discussion

This chapter presents and discusses the results and answers the research questions. For this purpose, this chapter is divided into three sub-chapters. Each sub-chapter is dedicated to one research question. Each of these three sub-chapters is in turn divided into further sub-chapters in which the results are presented thematically before the results are summarised. This is followed by an answer to the research questions and the results are discussed and classified in the literature and theory.

7.1 Research Question 1

The first research question addressed in this master's thesis is: *To what extent are scientists aware of the diversity of media?* In order to analyse the scientists' perception of media diversity, the following questions were focused on:

- *In your opinion, what role does reporting by traditional media such as ORF, Kronen-Zeitung or Der Standard play in what the population knows about the health aspects of Covid-19?*

- *In addition to the traditional journalistic media (such as ORF, Standard, Kronen-Zeitung, etc.), there are now also many alternative sources of information - especially on the internet. Which ones have you noticed in the past year that you think have an influence on what the population thinks they know about Covid-19?*
- *How good do you think the general public's knowledge of Covid-19 is?*
- *How well do you think media have succeeded in communicating scientific knowledge about Covid-19?*
 - *Have you noticed any differences in quality between different media? Can you please tell us what you think makes some media report better than others?*
 - *Can you give us a positive and a negative example?*
 - *Do you have the impression that media's treatment of scientific knowledge has changed over time? (Has it become more knowledgeable or understanding? Or even rather the opposite?)*
- *In this context: Research on science communication deals intensively with the potential for conflict between scientific and journalistic principles. Did you experience in the pandemic that your scientific perspective did not fit the needs of journalists and that there were conflicts between journalistic claims and their principles?*
 - *What exactly was the problem there?*
 - *Do you have the impression that journalists are good at dealing with the uncertainty of scientific knowledge?*
 - *How did you refer to the uncertainty of scientific knowledge in your communication with journalists?*
 - *Was this uncertainty sufficiently expressed in the corresponding articles?*

Nevertheless, the experts made distinctions between media and journalists at some other points in the interview, which is why the interviews were analysed as a whole. The above-mentioned questions only serve as an orientation for classifying the individual interview sequences.

First of all, it can be said that scientists do differentiate between different media. In general, the experts differentiate on two different levels: on the one hand, on the level of the medium and, on the other, on the level of the individual journalist.

7.1.1 Differentiation by Media

At the level of media, it becomes apparent that the experts differentiate between media in three different ways. Firstly, they distinguish between tabloid media and quality media, secondly, between traditional media and alternative media and thirdly, between TV, print, and radio. Only very few experts make no distinction between media and see media as a whole. Only one expert says: "Overall, I wouldn't turn my hand over there, but would call all media stakeholders drivers of the pandemic" (m4).

This is because most experts distinguish between media. The analysis shows that the majority of experts differ between tabloid media and quality media. In general, the experts see media playing an important role during Covid-19, as they are the main source of information for society and thus contribute to the formation of opinion:

"I think media have a big influence because the public consumes most of the information through media (...) they won't read scientific studies, they probably won't go to the ministry's website, but they will primarily consume media" (m3).

In this context, quality media are again attributed a greater responsibility and role in the fight against Covid-19 than tabloid media. A male expert says: "The traditional media, i.e., ORF or Puls 4 and things like that, i.e., television and newspapers play a big role for me. These are the important players" (m2). However, the fact that quality media are recognised as more important than the tabloid media has to do with the experts' own media consumption. Almost all experts say they inform themselves exclusively through traditional quality media and do not consume tabloid media privately: "I have to admit quite frankly that I don't read *Heute* and *Österreich* or whatever they're called. Instead, I try to orientate myself towards the, from my point of view, higher quality media, such as *Der Standard*" (f3). Some experts also recognise different information channels in society and that different groups in society use different media. For example, a virologist says:

"My parents inform themselves via ORF television and my daughter informs herself differently. She tells me, for example, that I saw you here and there when it somehow appeared on an online medium (...). The people who have informed themselves via traditional media continue to inform themselves via traditional media and others not at all. And the third ones via Facebook or I don't know what" (m6).

Thus, experts seem not only to distinguish between quality media and tabloid media, but also to use this distinction for the selection of their own information channels

and to recognise that there are indeed different information channels for different social groups.

The experts also differ between alternative media and traditional media. Alternative media include especially online media such as social networks, blogs, or internet forums. Like traditional media, these online media are also regarded as playing a major role in the Covid-19 pandemic: "Well, the individual beliefs then build up in the bubbles. So, social media have certainly also made a significant contribution to the situation where we are now" (f2). Hence, experts are aware that alternative media play a role in the pandemic and contribute to the formation of opinion.

Moreover, the experts do not see alternative media as a whole, but again distinguish between channels, especially between different social networks. Two different camps can be identified. On the one hand, there are the rather positively evaluated social networks such as Twitter and LinkedIn, which serve the correct dissemination of information, and on the other hand, the rather negatively evaluated social networks such as Facebook, where Fake News and Covid-19 opponents are increasingly suspected. One expert says: "In LinkedIn, for example, I see a lot of reference-based information (...). In Facebook, it's the other way around. It has very little to do with science. I wouldn't post anything there" (f3). Another expert also said:

"I communicate mainly via LinkedIn or Twitter, where I have the feeling that it is relatively pro-Corona or pro-vaccination. I reach the people who are interested in these much more. On the other hand, when I look at my private profile on Facebook, it's exactly the opposite. I have the feeling that anti-vaccination groups are forming there. The sceptics" (f3).

The differentiation between social networks is mainly made by the experts who are also active on the respective platforms. Another expert distinguishes between the social networks by stating how they use various online media for their own research and says:

"I don't have anything to do with Facebook anymore. We are also present on Twitter. There are good channels and not so good ones. And we only deal with blogs and other forums for research when it's somehow very weird. That is, conspiracy theory or myths" (m9).

All in all, the experts are able to identify differences between various online media.

A further distinction is made by the interviewed experts between different types of media. Experts also differentiate between print media, radio and TV. For example, when asked how they rate the coverage on Covid-19, one expert replied:

"Print media are certainly better than those with pictures and sound, simply because of the time involved, and there it is very often simply about the headline and the good slogan that you can hang yourself on again" (f5).

The evaluation of the reporting on Covid-19 will be dealt with in research question 2, but it should be noted here that experts also distinguish between different forms of media and evaluate them differently.

In summary, it can be said at this point that at the level of the media, differentiation is made at various points: firstly, there is the distinction between quality media and tabloid media. Secondly, a distinction is also made between traditional media and alternative media. Within alternative media, there is a further differentiation between, for example, different social networks. And thirdly, the experts also distinguish between media based on their format, i.e., whether it is a print medium, radio or TV.

7.1.2 Differentiation by Journalists

As already mentioned above, experts continue to differ on another level: the level of journalists. In general, the differentiation on the level of journalists is not as differentiated as on the level of media, but a simple distinction is made between qualified and unqualified journalists.

For experts, qualified journalists are not necessarily journalists who work for quality media. This is because the differentiation of journalists takes place independently of the medium for which the journalists are employed. For the scientists, there are five different factors that make a journalist a qualified journalist.

The first factor is that the journalist has specialist knowledge. In the best case, the journalist understands science and scientific complexity. One expert says: "There are some journalists who have really acquired an enormous amount of expertise in the last year and with whom it is really fun to do interviews" (m9). Therefore, the expertise of the journalist definitely has an influence on the enjoyment of the interview.

The second factor is that the interview with the scientist has been prepared for, and research is done in advance. One experts states:

"There is always contact with interviewers or directors or editors who are perfectly prepared they know exactly in which direction the whole thing should go they also know how to get there. It is simply a pleasure" (f5).

In comparison to the first factor, no scientific expertise is required here, but only the expectation that the interview partner is prepared and that the interview follows a concept or plan.

The third factor is that the journalist is being able to present the scientist's complex information in a for the audience understandable way. The experts view it as a quality feature that journalists make information more accessible to the public: "There are journalists who do this incredibly well (...) because they have a much clearer lay-oriented language than many experts" (m9). In addition, it is important that this well-prepared reporting happens over a long period of time and not only at the beginning of Covid-19:

"It was clear that good science journalists do good work. But I must say that I was very pleased about such a long time, such a great continuity in reporting on such a difficult topic, with such difficult facets, in a proper, objective and halfway decent manner" (m3).

Moreover, it is important to experts that not just a quote is taken out of context and that they are used as an expert for their expertise and not for a quotable quote. One expert says: "What I always have more problems with is when the journalist writes an article and all he needs from you is a quote" (m14). Another expert recognises that there are some journalists who "just want to somehow elicit the most lurid quote possible from you" (m6).

The fourth factor is that scientists feel good about their media appearances or interviews. This includes the interview itself on the one hand, but also the way they are treated after the interview on the other. For experts, it is important to be treated well, which includes, for example, that information is handled confidentially or that the scientists' wishes are taken into account: "If there is a certain relationship of trust with the journalist, then I also say, on the topic xy, this is my point of view, but please also write this and that about it" (m12). Moreover, for example, the prompt sending of the article for proofreading also makes a qualified journalist:

"There are simply journalists with whom it is fun to have a conversation. And then you get articles for proofreading that are just really good and to the point. And others either don't send it at all or send it so late that you only have 10 minutes to correct it and then you don't get around to it" (m9).

The fifth and final factor is that there is objective reporting without emotionalising or lurid headlines. An expert said:

"Sometimes I find great, really great articles, for once without any emotion. Because sometimes you get the feeling that the journalist is so angry at someone and now, he must criticise him in the article because he has the platform. Take the emotions out of it, because science must also try to keep emotions out of it, yes, and to remain factual." (m13).

This emotionality is criticized, in journalists and it is demanded that the article, like science, should also be neutral. As one scientist summarises:

"There are so-called science journalists and I think: what do you actually want? What is the aim of what you are doing? You only want to emotionalise. Science journalism is supposed to try to be objective. But that has nothing to do with objectivity. What you are doing is completely subjective and actually insulting. And you are sharing, you are evaluating science and that is not science journalism. Science journalism should be descriptive" (m17).

In summary, it can also be said that experts also distinguish between different journalists and classify them primarily based on criteria into qualified or unqualified journalists. There are five factors that experts use to identify a qualified journalist. First, that the journalist has expertise. Secondly, that the journalist prepares the interviews. Thirdly, that the journalist can present the information to the audience in an understandable way. Fourthly, that the journalist makes the experts feel good during the interviews and that there is a pleasant interaction. And fifthly, that emotions and sensational headlines are excluded from reporting.

7.1.3 Summary of Results and Discussion

Overall, the research question to what extent scientists are aware of media diversity can be answered as follows: the scientific experts definitely differentiate between different media and thus also perceive a media diversity. The differentiation takes place on different levels, and they differentiate not only by media but also by journalists. While the differentiation of journalists depends primarily on the criterion of whether the journalist is qualified or unqualified, the differentiation of media is more complex.

There are three different categories that scientists use to differentiate between media. The majority of scientists distinguish between tabloid media and quality media, whereby the evaluation of these media is also related to one's own media consumption. In addition, most scientists distinguish between alternative media and traditional media. Especially online media are considered separately and evaluated in a differentiated manner. Here, too, a further distinction is made between individual social networks. Some scientists also differentiate according to the media format, i.e., whether it is radio, print media, or TV.

In summary, it can be said that media diversity is perceived to a large extent by the scientists and that it is by no means the case that media are regarded as a whole. Most scientists take a very differentiated view on media and also evaluated media and their reporting in a highly differentiated way. The evaluation of reporting is strongly related to the differentiation of media.

As discussed earlier in the paper, to date, little is known about how scientists view journalists and how diversity is perceived within journalistic and quasi-journalistic media (e.g. Dunwoody, 1999; Editorial, 2004; Gunter et al, 1999; Petersen et al, 2009; Reed, 2001; Bauernschmidt, 2017). This work fits into studies that examine the academic perspective on journalism (Dernbach, 2012; Peters, 2008). However, previous studies mostly examine the relationship between scientists in general and do not distinguish between different media. This work extends the findings of previous studies and lets scientists differentiate between different media and provides the perspective of scientists who serve as "sources" for media and journalists as well.

In terms of differentiating journalists, the findings of this study align with those of Dernbach (2012) and Besley et al. (2018), in which scientists express that they have experienced both skilled and low-skilled journalists in all media and it does not depend on the medium whether a journalist is qualified or not qualified. However, this work extends the findings of previous studies on this topic and recognises factors by which scientists differentiate qualified journalists from unqualified journalists. These five facts identified in the analysis of this master's thesis have the potential to facilitate future cooperation between journalists and scientists.

The fact that scientists generally differentiate between media is initially no surprise, since all the scientists interviewed have an academic degree and are mostly also employed at universities. Consequently, a certain reflective competence can be assumed (Lenhardt & Stock, 2009). Moreover, according to Bourdieu (1976), the field of science

communication forms the intersection between the scientific field and the journalistic field. Thus, science communication carried out by scientists in their daily work is an activity that is already routine for many scientists (Besley & Dudo, 2016; Besley et al., 2018). Scientists and journalists regularly work together and benefit from the collaboration (ibid.). On one aspect, scientific expertise acts as a reliable source of public and media interest in current affairs; in return, media attention can provide public legitimacy for scientists and their research (Peters et al. 2008; Weingart 2003). The credibility of the scientists' statements is also amplified by media appearances (Dernbach, 2012). By classifying science communication as an interface between the scientific field and the journalistic field, it can also be assumed that scientists possess a certain media competence (ibid.). This media competence also arises from media experience.

Most of the experts interviewed say they already had media experience through their position before Covid-19. Another point that plays into the good competence of scientists to differentiate between media is that most scientists gained more experience with different media during the Covid-19 pandemic. This of course plays into the perception of media and hence also facilitates the differentiation between different media on the basis of individual experience. Therefore, it also seems logical that this work confirms Besley & Nisbet's (2011) findings that scientists recognise a media logic and see media adapting to this logic in their reporting.

That scholars differentiate between different media and recognise that media vary in content and political directions has also been recognised in other studies (Besley & Nisbet, 2011; Dernbach, 2012; Rödder, 2008). At this point it must be noted that the scientists do differentiate between media in three ways (tabloid media versus quality media; traditional media versus alternative media and differentiation between radio, TV and print media), however, the interview guideline already provided a category. For the fact that a question actively asked for the differentiation between traditional media and alternative media in terms of quality, it is possible that this category is not primarily taken by the experts themselves but is predetermined by the structure and question conception. Nevertheless, it is imaginable that this distinction would also have been made by experts if the question had been worded differently. For most of the experts did indeed make a differentiation within these traditional and, above all, alternative media.

The fact that experts actually distinguish between traditional and alternative media is a serendipitous discovery. This is because alternative media do not play a major private role for many academics and are hardly used by them (Atton & Wickenden, 2005).

Alternative media are media that deviate from the established media or mass media (Coyer et al., 2011). These alternative media do not refer to a specific format in the sense of radio, print, online or television (ibid.). Alternative media have different working methods than traditional media (Atton & Wickenden, 2005). Experts are usually not invited by alternative media because alternative media usually provide a platform for those who are considered "different" or "voiceless" (ibid., p. 8). "Such practices emphasise first person, eyewitness accounts by participants; reworking of the populist approaches of tabloid newspapers to recover a "radical popular" style of reporting; collective and anti-hierarchical forms of organisation, an inclusive, radical form of civic journalism" (Atton 2003, p. 267). This native journalism (Atton, 2002, p. 491) is an essential part of alternative reporting. It aims to provide information and news to a wide audience and both journalists and expert groups are criticised by alternative media for not being able to present complex issues in an understandable way (Atton & Wickenden, 2005). The fact that alternative media again distinguish between different social networks is considered a surprising result of this study.

7.2 Research Question 2

The second research question is: *How do scientists evaluate the way different media deal with Covid-19?* In order to answer this question, the analysis focused on the following questions from the interview guideline:

- *From your perspective, what interim assessment do you make of media coverage of Covid-19? How do you assess the quality of media coverage of Covid-19?*
- *In your opinion, what role does reporting by traditional media such as ORF, Kronen-Zeitung or Der Standard play in what the population knows about the health aspects of Covid-19?*
 - *In addition to the traditional journalistic media (such as ORF, Standard, Kronen-Zeitung, etc.), there are now also many alternative sources of information - especially on the internet. Which ones have you noticed in the past year that you think have an influence on what the population thinks they know about Covid-19?*
 - *How good do you think the general public's knowledge of Covid-19 is?*

- *How well do you think media have succeeded in communicating scientific knowledge about Covid-19?*
 - *Have you noticed any differences in quality between different media? Can you please tell us what you think makes some media report better than others?*
 - *Can you give us a positive and a negative example?*
 - *Do you have the impression that media's treatment of scientific knowledge has changed over time? (Has it become more knowledgeable or understanding? Or even rather the opposite?)*
- *We have already talked about the fact that there are many other sources besides the traditional media on the internet that "inform" about Covid-19. How do you rate the quality of these sources compared to journalism?*
 - *Do you have any positive or negative examples for us here as well?*
- *Experts play an important role in reporting. How do you rate the range of experts presented by the Austrian media in the context of Covid-19? To what extent do you think that the right or the wrong experts have their say?*
 - *Have you noticed any differences between the various media?*
 - *To what extent have you noticed differences in the choice of experts between traditional media and alternative media on the Internet?*

Just as in answering research question 1, these questions only serve as a rough classification, since the interviews were analysed completely. In the following, the evaluation of the reporting will be discussed first before the spectrum of experts presented in Austrian media will be addressed.

7.2.1 Evaluation of Reporting

The assessment of the reporting differs significantly from expert to expert, but most experts agree that science journalism has played a major role during Covid-19: "I believe that science journalism in particular has played a good and important role. Also, to communicate not only the findings themselves, but also the classification of the findings" (m12).

In addition, the majority of the experts assess the media coverage of Covid-19 as positive overall. Some experts say they perceived the reporting as well-balanced and objective and are therefore satisfied with the reporting. One expert says:

"I think that the media coverage has actually been quite good from the beginning until today, in my perception. I think it has been objective and it has also highlighted various aspects, so that people have been able to form their own opinion. I think that, at least from my perspective, there is not really much criticism of the media coverage" (m15).

Another expert emphasises that she finds it positive that "there were few, let's say, science deniers and also few scaremongers, they always tried to achieve a certain balance" (f4). Some experts also recognise the difficulty of scientific topics as one expert states that "it's not that easy for a journalist to read medical scientific papers now, it's quite a challenge" (m1). Most of the experts were particularly positive about the way in which scientific findings are communicated. One expert states he is positively surprised for the fact that "it has been possible to explain to even the most ignorant person in this country what a PCR, a CT value and a pandemic is and what a host, an antibody and whatever other terms have been explained there" (m3).

Dealing with the scientific uncertainty of information also worked well in most cases and was not a problem for most journalists. One expert talks about his experiences with journalists and says:

"They are sometimes disappointed when you say it's still unclear. But on the other hand, there have also been some who have said: then I'll probably have to rewrite the title, but it's probably the case that you don't know everything yet. As a rule, you already have the feeling that they are professional enough and realistic enough to know that a lot is still unclear" (m13).

Thus, the media coverage as a whole, without differentiation by medium, was first assessed positively by the majority of experts.

Nevertheless, some experts also expressed they were generally not satisfied with the media coverage. Although this is the minority of four experts, who considered the reporting to be generally negative, the criticism of these experts will be briefly discussed here.

Most of the experts' criticism does not refer to the content of the reporting, but to the way it was reported. One expert said: "It's all geared towards negative headlines, towards scaremongering, towards fearmongering" (f2). It is assumed that the biased

reporting is a danger for society and "divides the population to an extent that I have never seen before" (m4). Another expert criticises that media always try to include different opinions in their reporting:

"When science is 90 per cent in agreement, a counterpart is still found to everyone who says one thing. And that totally distorts the public's perception because people believe that science is not in agreement. But just because there are a few cross-headed people doesn't mean that science is not unanimous" (m10).

Especially with emotional and polarising topics, the reporting has a great influence and "that went really badly, especially when it comes to vaccinations, I have to say that I'm not particularly enthusiastic about how knowledge about vaccinations is shared" (m2). The reporting "has indeed often not worked and has often led to great confusion" (m17).

Further criticism of media is not only voiced by the experts, who evaluate the reporting as consistently negative. Even experts who see the media coverage of Covid-19 as rather positive expressed the criticism that there is too much coverage on Covid-19. For example, some experts emphasise that the frequency of reporting on the pandemic is perceived as too high. One expert says:

"It's annoying when you're always presented with the same topic every day. I don't know how many ZIB2 programmes there were last year without Covid-19. Probably not even one. Sometimes I would like to have a break, but you can't get out of it. It's just a crisis that we're in the middle of" (m7).

Another expert rates the quality of reporting positively, but also sees the quantity of reporting as a problem: "Very good in terms of quality. But there's too much quantity that you can't escape (...) you really have to turn it off at home" (m2).

Now that the evaluation of the reporting as a whole has been dealt with comprehensively, the evaluation of the reporting by individual media will be focused on. As already noted, most experts do differentiate between media in their assessment of the coverage.

Most experts distinguish between quality media and tabloid media and evaluate the reporting of these media differently. The different assessments take place both at the level of the medium as well as at the level of the individual journalist. One expert distinguishes between different journalists and says, for example:

"I think it's very mixed. There are some science journalists who really report very well, who really understand it very well. And then, of course, there are the exact

opposite. Many things are taken out of context or presented in an abbreviated way. Or even presented in such a way that you expect a lot of clicks. The quality of reporting is very mixed" (m9).

Another expert expresses that reporting has also changed over time: "I would say it's up and down, it was very professional at the beginning, but then at some point it diminished. Some media report in a higher quality and others in a lower quality" (m1). As already noted in research question 1, the evaluation of the reporting is strongly related to the differentiation of media. The experts rate the reporting differently depending on the medium. Thus, quality media are rated differently than tabloid media and the rating between alternative and traditional media also varies.

The reporting of quality media was generally assessed positively by the scientists. One expert said: "What is certainly positive is that a lot of educational work was done, especially at the beginning of Covid-19. ORF, for example, allowed many experts to have their say. As did the good newspapers" (m10).

Among quality media, one medium was mentioned particularly often, which is considered a positive example by most experts: the ORF. The Austrian public broadcaster ORF was praised in many interviews for its coverage on Covid-19. "The ORF plays a big role and I think they do it quite professionally, they try to inform objectively" (m1). In addition to the ORF as a whole, the science editor of the ORF was frequently complimented for his work: "I would like to single him out, who conveyed this in a really completely unagitated, very competent way" (m16).

The reporting of tabloid media tended to be evaluated more negatively than the reporting of quality media. One expert said: "The tabloids are obviously doing business and generating attention with shock messages" (f2). However, not all experts are negative about tabloid media coverage. Some scientists express positive surprise at the way tabloids have reported on Covid-19. For example, one expert says:

"I was surprised about the development of the tabloid media and positively surprised. I have never seen that before, with partly very serious reporting and very source-related reporting (...). The *Kronen Zeitung* started to quote the sources and they could download the sources online from the *Kronen Zeitung*" (m5).

Another expert also emphasises that reporting in tabloid media varies and says: "Tabloid media are very different in quality and this *Servus TV* is below every line. They simply worked very dubiously" (m1).

In general, Servus TV was mentioned by many experts as a negative example. Servus TV is a channel that is known for documentaries and reports. During Covid-19, Servus TV created “Corona-Qu4rtett”, a format in which two scientists and experts in the field of virology or epidemiology discuss with two Covid-19 deniers. This format causes displeasure among most of the experts interviewed. One expert says:

"With ORF, for example, I had the feeling that they were making an effort to report factually, with Servus TV I have the feeling that only the dissenting voices are collected, so I have not had the impression for a long time that a balanced attempt is being made" (m3).

Another expert states:

"I mean, there is one aberration in media, that is Servus TV, where I am very disappointed about the coverage. Which actually only has the purpose of questioning the measures and putting them in a strange light" (m1).

Servus TV has, like most media during Covid-19, shifted its focus to coverage on Covid-19. One expert says: "Servus TV increasingly dealt with very abstruse things during the pandemic and invited very odd people. That was very strange" (m10).

Now the evaluation of alternative media and especially online media will be looked at in more detail. In general, online media are evaluated more negatively than traditional media:

"In the end, there are also very good, very well-founded ones, but I would say 90% are simply much worse than any quality journalism. Because nobody has to check it, because it takes place in a certain group and because it runs in the bubble. I think that's a big danger" (f14).

Social networks in particular are criticised for their content on Covid-19:

"And on social media, of course, they said the most bullshit! Really, I've never read so much crazy stuff. Facebook in particular is really stupid. On Twitter it's always a bit more differentiated, depending on where you look. There are also very sophisticated discussions there. But on Facebook there is almost only nonsense" (f4).

Some experts see the problem that the spread on social networks varies, making it difficult to control the different channels.

"The problem is that I think the dispersion is much bigger there. There are great people to follow on Twitter or Facebook, but you have to find them. And conversely, there's a lot of bullshit that doesn't happen in that amount in the

traditional media. The *Kronen Zeitung* and the *Bild Zeitung* in Germany and so on, they write a lot of nonsense, of course, but such concentrated nonsense as has spread in the social media, even then with demonstrations on video, where people can be taught on YouTube and it all sounds quite plausible, but it's actually complete nonsense. It's a different quality, in a negative sense," says one expert (m15).

In summary, it can also be said that although the reporting on Covid-19 is rated positively overall by the experts, most experts differentiate between media in their assessment. While quality media is consistently praised for its coverage, the verdict for the tabloid media is more differentiated. Thus, the reporting is rated as less good in terms of quality, yet some experts are positively surprised. The online media are rated lowest.

7.2.2 Assessment of Experts in Media

Since experts played an important role in media coverage during Covid-19, the evaluation of the range of experts presented in media will now be discussed in detail.

Only a minority of the scientists interviewed think that media do not consciously select experts, i.e., that media tend to randomly select which experts to interview for reporting. Only one scientist says: "That was a random selection" (m8). All the other experts interviewed agree and assume that media do select and prefer certain experts for their reporting. A total of five reasons for this can be identified from the scientists' answers.

The first reason is that media select for experts who can convey information well. One expert says: "I have the feeling that media tried to focus on experts who were somewhat able to convey things in an understandable way to the public" (w4).

The second reason is that there is a certain loyalty between journalists or media and experts and that they work together in the future. For example, one expert answers the question of whether media prefer certain experts with: "Yes, they have their preferences, definitely. They are also loyal to them, so there is a certain loyalty" (f3).

The third reason given for the selection of experts is that experts are selected because they adapt to media and convey what journalists want to convey with their reporting. One expert answers: "I think it depends on the orientation of the medium and what it wants to convey. And then, of course, the experts who convey exactly what the media want to convey are selected" (f6).

The fourth reason is that good accessibility is also taken into account for the selection of scientific experts: "There, too, it is the accessibility, how easy it is to deal with someone and how easily they can be reached in a hurry, even in an emergency. Of course, that plays a role for media" (f5).

The last and fifth reason is that experts are selected by media according to topic and not every scientist speaks out on all topics. One expert expresses: "I think it has now become a little clearer who is asked about which topic" (m12).

Surprisingly, almost none of the experts say that the political role of scientists plays a factor in the selection of media. Some scientists have taken an advisory position in politics during Covid-19. Scientists, however, do not think that experts are selected by media for their coverage because of this role.

The range of experts presented in Austrian media tends to be negatively evaluated and criticised by the scientists. Only a few experts expressed they like the selection of experts. Thus, only a few scientists praised the expert choice of media and states:

"There were certainly many very good people who had their say, no question about that. And that's also great to see who there is in Austria who is active in this field and especially how multi-layered this field is as well" (f6).

Another expert says: "So I think that generally it has been done quite well. And media have relied and had to rely on the experts in different fields" (m15).

However, the majority of experts expressed criticism of the selection of experts who appeared in media. Four main points of criticism can be named.

The first criticism is that too few female experts appeared in media. This criticism is voiced exclusively by female scientists. One expert expresses: "We women don't have these advance praises and are asked less often. We have to fight our way through" (f4).

The second point of criticism is that the diversity of experts is too low and experts from some important research fields did not even have a chance to speak up. One expert called for better selection and states:

"I think the selection would have to be standardised. The question should be asked: which people from which fields say what about which topic. For example, we have boards with colleagues from psychology and the social sciences. But they are not heard enough, for example" (m6).

The third point of criticism is that there were too many experts in media. Some experts would have found it better if only a certain number of experts were available for

a topic area. For example, one expert says: "I think that the number of experts was just too big, so I think that was a mistake" (m17).

The fourth criticism goes hand in hand with the second and third and was mentioned most often. It is that experts were presented in media who are not really experts in the field. In addition, there was no thorough checking of the scientists' CVs on the part of the journalists to determine whether they had the competence to present themselves as experts in media. For example, one expert states:

"People were given a voice, and I wondered where their expertise came from. That was not checked. Not even with me! No one ever asked me what my career was like. I was surprised and therefore there is an oversupply of experts, and I would actually call very few of them experts. And that's dangerous because I really do read misinformation in media every day" (f3).

Another expert also recognises the problem and says:

"In Austria, the term *expert* is generally a certain problem, because you very quickly become an expert and are also dubbed an expert by media, just because you once said something about it somewhere or wrote a guest article about it. This has been extremely noticeable, that an insane number of people suddenly wanted to produce themselves in some way" (m10).

All in all, it can be said that the spectrum of experts tends to be evaluated negatively by the scientists, but the experts do see a pattern behind the selection decisions of media and do not believe that they are based on chance.

7.2.3 Summary of Results and Discussion

Finally, the research question *How do scientists evaluate the way different media deal with Covid-19?* can be answered as followed: the reporting itself is rated positively by the scientists overall, but the majority of the experts differentiate in their judgement between media. Whereas quality media score best in the experts' assessment and are consistently praised for their reporting, the assessment of tabloid media is more differentiated. Here, it depends on the individual medium whether the reporting is rated better or worse. Online media, on the other hand, are almost exclusively criticised and seen as a danger because, depending on the channel and social network, false information can spread there and are more difficult to control than in traditional media.

In addition, the range of experts presented in Austrian media is criticised by scientists. Here, experts see the selection process of media as a conscious process that takes place according to certain criteria. Scientists critique the selection decisions of media.

However, the evaluation of the reporting as a whole depends strongly on the medium and since, as already clarified in research question 1, most scientists consume quality media, it can be assumed that the scientific experts also primarily refer to these quality media in their evaluation.

Furthermore, the expectations of the reporting play an important role. While no great expectations are placed on tabloid media in terms of high-quality reporting, the experts do expect high-quality reporting from quality media and are stricter in their assessment:

"I would say it's heterogeneous because media are also heterogeneous. I don't really have tabloids on my radar because I don't really consume them. It's hard for me to evaluate it. But the media that I have on my radar are the classical press, the *Standard*, the *Wiener Zeitung*, ORF of course (...) I would really be very strict" (m14).

The results of this master's thesis fit in with previous research findings that reporting by experts from one's own field is considered more critical than by non-experts (Young & Matthews, 2007). Although there is no comparative value to other social groups here, the scientific experts certainly view the reporting critically. Thus, it could have been assumed that the evaluation of reporting on Covid-19 would be viewed more crucially than reporting on less sensitive and vulnerable topics (ibid.; Loss et al., 2021).

However, it turns out that the evaluation of reporting is extremely positive, especially in quality media. The fact that quality media tend to be rated better than tabloid media is consistent with the results of previous research (Magin, 2020). Especially because the evaluation of media is related to one's own media consumption (Taddicken & Neverla, 2011), it is hardly surprising that the experts primarily refer to quality media in their evaluation. The fact that the experts differentiate between media and make their assessment on the basis of individual media and do not evaluate the coverage of Covid-19 in general also militates in favour of a certain media literacy of experts, as already discussed in the answer to research question 1. The negative evaluation of online media and especially social networks also fits with previous research (Korte & Dinter, 2019).

Moreover, the results of this study are consistent with the studies that find that there are both qualified and unqualified journalists in all media (Dernbach, 2012). Nevertheless, it is surprising that no distinction is made in the reporting between radio, TV and print. As explained in research question 1, scientists do distinguish between these media. Nevertheless, there is no separate evaluation of these media. Radio in particular is hardly mentioned by the experts.

However, it is surprising that overall coverage is viewed positively, as experts tend to have a negative attitude towards media and scientists often blame media for fostering insecurity and conflict in society (Young & Matthews, 2007). In the theory part of the thesis, four different types of scientists were described and how they deal with media. Firstly, there are the telegenic experts who want to be interviewed and tend to be positive towards media (Dernbach, 2012). Secondly, there are the scientists who produce content themselves. Thirdly, there are the experts who completely reject media requests and have a negative attitude towards media and lastly, there are the scientists who do not impose themselves on media but usually accept media requests (*ibid.*). Due to the extremely positive assessment of media and reporting, it can be assumed that especially scientists from the first group are to be found in the sample of this study.

It should also be noted that although journalists bear the main responsibility for reporting, scientists have nevertheless played a major role in media coverage. The fact that scientists therefore rate the media coverage in which they themselves appear as experts better is presumably related on the one hand to their own experience in media appearances and according to which they select where they appear. On the other hand, however, it can be assumed that it also has to do with the self-portrayal and the scientist's own role that one assumes in media, that one criticises the media in which one appears less and hence also takes on a part of the responsibility of the reporting.

It is also surprising that scientists criticise the selection of experts in media. The criticism there is not directed at the experts, but at the media's selection process. While journalists make it dependent on factors such as expertise, prominence, linguistic presentation skills, authentic appearance, accessibility, reliability, and predictability of the statement (Nölleke, 2009) which experts they invite, the perception of these criteria does not seem to reach the experts. In this way, the experts recognise other factors according to which journalists select scientific experts. First, that the expert is good at conveying information; second, that there is a certain loyalty between the expert and the journalist, meaning that journalists always work with the same experts. Thirdly, that the

expert adapts to media and the objectives of the reporting, and fourthly, that the expert is accessible, even for interviews at short notice. The experts interviewed are highly critical of the range of experts presented in Austrian media and would like to see a standardised selection process. One might think that these criteria (as mentioned for example by Nölleke, 2009) are a first step towards such standardisation, but according to the experts, not all criteria are met in the experts who appear in media. The experts interviewed state many experts who appear in media do not have any professional competence, for example, and do not match this selection criterion.

7.3 Research Question 3

The third research question is: *To what extent does the perception of the functioning of the media influence the handling of media inquiries?* For the analysis, as with the other research questions, the interviews were analysed completely, but the focus for this question was on the answers to the following questions:

- *How well do you think media have succeeded in communicating scientific knowledge about Covid-19?*
 - *Have you noticed any differences in quality between different media? Can you please tell us what you think makes some media report better than others?*
 - *Can you give us a positive and a negative example?*
 - *Do you have the impression that media's treatment of scientific knowledge has changed over time? (Has it become more knowledgeable or understanding? Or even rather the opposite?)*
- *We have already talked about the fact that there are many other sources besides the traditional media on the internet that "inform" about Covid-19. How do you rate the quality of these sources compared to journalism?*
 - *Do you have any positive or negative examples for us here as well?*
- *What do you think it takes to be able to fulfil the role of a media expert in a satisfactory way? What kind of skills do you need? And what resources do you need?*
 - *Now we would like to look specifically at your experiences as a media expert. First of all, I would like to ask you: Can you please tell me about your*

experiences as a contact person for media in the past year - how many; good, bad experiences did you have? What is your personal assessment?

- *Do you remember a particularly remarkable experience that you can tell us about?*
- *What does it depend on whether you accept or reject media enquiries?*
 - *To what extent does it make a difference from which media the enquiry comes?*
 - *And did you experience during Covid-19 that journalists have different scientific competence? Do you also decide on the basis of this competence whether you accept enquiries?*
 - *To what extent is it important to you that journalists understand the scientific process?*
- *In this context: Research on science communication deals intensively with the potential for conflict between scientific and journalistic principles. Did you experience during Covid-19 that your scientific perspective did not fit the needs of journalists and that there were conflicts between journalistic aspirations and your scientific principles?*
 - *What exactly was the problem there?*
 - *Do you have the impression that journalists are good at dealing with the uncertainty of scientific knowledge?*
 - *How did you refer to the uncertainty of scientific knowledge in your communication with journalists?*
 - *Was this uncertainty sufficiently expressed in the corresponding articles?*
- *We have already talked about how intensively and under what conditions you answer media enquiries as an expert. However, we still know very little about your motives for investing time in such activities as an expert. Can you please tell us why you are basically willing to appear as an expert in media? What goals do you pursue with your media appearances?*
- *When you now look back on your media expert life in the last year, how satisfied are you with your experiences? What went well, what not so well? And what consequences do you draw (or have you already drawn) for future media appearances?*

In order to answer the research question, the following section will first look at the perception of the functioning of media before a distinction is then made between motivations and actual inducements for providing expertise. Afterwards, the experts' way of dealing with media will be discussed, which results from the perception of the functioning, and the experiences made with media appearances. Finally, the research question is answered.

7.3.1 Perception of the Functioning of Media

The perception of the functioning of media differs significantly between the experts, so that two groups can be identified overall, whereby the first group contains fewer experts than the second group. Firstly, there are the experts who have an understanding of the functioning of media, but do not criticise journalists for the way they work, according to the motto "they are just doing their job" (m3). And secondly, there is the majority of experts who recognise a functioning of media and also criticise them for the way they work.

In the first group, it is immediately noticeable that journalists do not need to be experts in the scientific field. Hence, one expert states:

"This scientific competence doesn't have to lie with the journalist, he has to have journalistic competence (...). They all like to do their job and make sure they do it well, that's fine. They are all under a bit of pressure sometimes" (m2).

Another expert adds: "The description of all these topics was very distinctive and detailed. Sometimes, perhaps, the details were not always quite right, but that is the nature of a journalist, that he is not a specialist" (m3). Although these experts recognise that journalists work differently and that they lack scientific competence, they do not see it as the task of journalists to have scientific expertise. Scientific literacy is therefore not obligatory for journalists, yet it makes a journalist a more qualified journalist if he or she has a certain level of scientific literacy, as already discussed in research question 2.

The larger second group of experts also recognises a way of functioning of media but criticises the journalists for it. A total of three points can be summarised that experts recognise in the functioning of media.

The first point is that media need clear statements. One expert says: "We scientists always tend to put everything into perspective, and media just want clear statements" (f1).

Another expert adds: "Journalists need simple truths. Yes, no, left, right, up, down, more or less. None of what I deal with scientifically is definite" (m4).

The second point is that media truncate statements and present facts in a shortened way. "Then there are the news people who often condense you to single statements, who want to know something quickly", states one expert (m5).

The third point is that media chase audience ratings and make their reporting dependent on what works well this moment in time. This is the most criticised point among the experts. For example, one expert said:

"And of course, there are the smaller media that try to stir up trouble, that represent other opinions and try to stir up the whole thing. But that has nothing to do with content and meaning; it's purely a matter of audience ratings. The whole system is heated up because the newspapers want to sell newspapers and the television stations need ratings. There is no content behind it and these experts are chosen after knowing in advance what they will say" (m4).

Media are particularly criticised for their content and that they only determine the content according to what gives the best rating. One expert states: "The more abstruse the story, the more credible it seems. They operate with spurious correlations and explanations. It's unbelievable" (m10). Another expert also criticises the content and summarises:

"In media, it's never about finding the truth. It is always about two things. Media want as much scandal and ratings as possible. And the person giving the interview wants to convey a message. That's why these interviews always pass each other by. It is not a meeting of equals" (m4).

These three points and the criticism of the way media work are also related to the productivity of the cooperation between journalists and experts. For many experts express that this way of functioning of media inhibits and complicates cooperation. "Of course, in the speed of the process, mistakes also happen, if I may say so. And these can of course also fuel the conflict between science and media" says one expert (m15). Nevertheless, experts recognise they have to adapt to the functioning of media in order to be able to convey the content:

"And one is always instrumentalised, of course, to varying degrees. Depending on the medium. If you don't allow yourself to be instrumentalised under certain circumstances, you can't get the message you want to give across to the people" (m5).

The criticism of media expressed up to this point only refers to traditional media. As far as the functioning of alternative media is concerned, especially online media in the form of social networks, the assessment is more difficult. Most experts express they do not understand how alternative media work. For example, one expert says: "In alternative media, however, it is often presented as if one could choose what the truth is anyway" (f1). Another expert sees especially the comment function as central to social networks, saying:

"That's the whole point of social networks, so that users can make comments. Sometimes they are really, really bad, really harsh. TV broadcasters also put their videos on YouTube. And then there is the possibility to comment. And if you want to have a look at it, these comments are insulting" (m15).

7.3.2 Motivations Versus Inducements to Appear in Media

Now that the perception of the functioning of media has been clarified, the concrete motivation for appearing in media and the actual inducement for appearing in media should be discussed. As already explained in the theoretical part of this paper, these two points cannot be equated at all.

In the interviews, three main motivations or goals were mentioned for appearing in media. The first motivation is that scientists feel a sense of responsibility. Especially the public funding of scientists through taxes plays into this sense of duty. One expert comments on this: "It's my duty, I'll put it that way. I am paid by the taxpayer, and therefore it is also my duty to inform the taxpayer about what we are doing in our chamber. It's as simple as that" (f4).

The second motivation is publicity. For example, one expert says: "So, it's vanity and altruism. Basically, of course, it's good publicity for our research" (m6). Media appearances are used to advertise one's own research. When asked what goals are pursued with media appearances and why they appear in media at all, one expert answers: "Because I see this as an important channel for our research" (f1). Another expert says: "We have consciously seen it as an opportunity for our department to become more well-known" (m9).

The third motivation is that media appearances are perceived as "part of the job" (m8) or as a duty, as there are also external expectations pressuring scientists to appear in media. This motivation partly results from the perceived knowledge deficit in society, so

that a need for information is recognised and the experts use their expertise to solve this knowledge deficit (Besley & Nisbet, 2011; Davies, 2008). One expert comments on this and says she appears in media "because I still have a lot of contact with patients and I know how great the need for information is". (f5). Experts want to provide a decision-making support for the public. One expert states:

"My main goal is that the whole population in Austria can make their own evidence-based health decisions. It is important to me that well-tested information reaches the population and not just any claims, and if I can make a contribution then I am happy to do so" (f1).

Another expert adds to the statement and says: "I always just wanted to inform" (m17).

The concrete inducements for appearing in media and sharing expertise differ in several aspects from the motivations and goals pursued with media appearances. The inducements include the three points mentioned in the motivations, but also include external factors.

Hence, a total of seven concrete inducements can be named, according to which it is decided whether to appear in media or not. The first inducement is that there are external expectations that security and information must be provided also coincides with the motivation just mentioned. One expert emphasises the need for the right information in media, saying:

"I think it is very important to convey the right information correctly and if I am able to pass on knowledge in this way, then I am happy to do so (...). If it helps to convey information correctly and helps that other experts, who give wrong information, take a back seat in media, then I'm willing to do that [appear in media]" (f7).

Similarly, the point of publicity for research can also be found as inducement. One scientist emphasises the competition and says:

"Because at the end of the day, we are in an attention contest as scientists. That is very clear. That attention competition was also there when it came to research on Covid-19" (m12).

The point of responsibility is also found in both the motivations and the inducements. One expert says: "I am paid by the public sector, so I have to do something for the people" (m2).

In addition to the points that are reflected in both the motivations and the concrete inducements for appearing in media, there are four other factors that are used to decide whether to appear in media or not.

The fourth factor is whether there is time to appear in media. While one expert says: "If it somehow fits in with my schedule, I will accept the media enquiry" (m1), another expert follows a certain pattern:

"I have a concept behind how I do it. I do something with media and then take a break for a month. And then I do it again and then take a month off, otherwise you can't take it" (m2).

Another expert, when asked about the factors that determine whether she accepts or rejects a media request, responded with:

"Time, especially time. And whether it can be arranged with my work. Well, at the beginning I still thought that I could somehow fit it all in, then I said that it was no longer possible with my daily work, with my everyday life. Then I actually categorise it over time" (f3).

The fifth factor is that it is decided according to the medium and the journalist whether to appear in the medium. When asked whether scientific competence plays a role in the decision to accept a media request, one expert replies:

"Yes, that definitely plays a role in the decision. There are some journalists who have really acquired an enormous amount of expertise in the last year and with whom it is really fun to do interviews (...). When requests from one of these journalists come in, I usually say yes or pick up the phone" (m9).

Another expert describes his media selection, saying:

"In the beginning it was rather selective, what is a quality medium for me and what is not. So *Ö1* always. *Falter*: with pleasure. *Standard* at that time also with pleasure. *Presse*: yes. I was very active in the *Wiener Zeitung*. *Kronen Zeitung* from the beginning: no. They were furious there. *Kleine Zeitung*: no" (m14).

The sixth inducement for appearing in media is that it depends on the topic being discussed. One expert says: "Of course, it depends on the question of content. If I have the feeling that I'm not really an expert in the field, then I won't do it, I'll refuse the enquiry" (f6). For example, another expert states:

"Thematically, it usually stays in my epidemiological field. And if not, then I don't respond to the request or reject such topics, because you also don't want to become the expert for everything. It should remain in one's own area of expertise" (m9).

The seventh and last inducement is also largely based on experiences with media appearances and describes whether there is a desire to appear in media. One expert summarises: "One factor is whether I want it, i.e., how I feel right now, how I want it, so it's a personal state of mind" (m9). A few experts also make it dependent on where the interview takes place whether they accept the media request. One expert expresses:

"I don't care about *Oe24* or *ORF* or *Puls 4* or *HTV*, they're all in Vienna. I live next to *ORF*, so that's very pleasant, I can easily accept the enquiry because I don't have to travel. *Servus TV* doesn't really work, they're in Salzburg (...). That's why I exclude them" (m2).

However, these are only a few experts, so that the location is not seen as a factor. In addition, only very few experts say that they do not make any selection and either generally accept or reject media enquiries.

In general, it can be said that the actual inducements for appearing in media as an expert are a mixture of, the subjective and individual goals that are pursued on the one hand and the external factors that especially include the actual feasibility on the other hand. Since it is particularly relevant for this research question, what actually motivates experts to appear in the media, the following will primarily refer to these seven inducements.

7.3.3 Dealing With Media

In order for the cooperation between journalists and the media to work out, most experts adapt to media in their public communication and hence have a certain way of dealing with media. In the interviews, six different behaviours have been identified that experts display in their interaction with media and journalists. These behaviours arise for the experts particularly from the experiences they have had in their media appearances in the past year.

The first behaviour is to simplify the language and the topic so that it is understandable for the journalists and the audience. One expert says:

"You should try to report in an understandable way, that is probably the most difficult thing because we have our own vocabulary that nobody understands. That means I have to translate my work into understandable German and often present complicated contexts in a way that people can understand" (m1).

Another expert adds:

"It is important to be able to put content into simple words so that you can also reach grandparents. It is not easy for every expert to speak without technical terms and to work with examples and metaphors" (m7).

Moreover, the language is also adapted to the medium in which the expertise is shared. For example, one expert states:

"It is important to be able to express oneself in an understandable way depending on the level of the medium and the audience. Of course, I speak differently in the *Standard* than when I do an interview with the *Kronen Zeitung*. And I express myself differently on *ZIB 2* than when I'm on *Servus TV*. So that is a small difference. You have to be able to adapt to the audience, you have to be able to adapt your language to it (f4).

The second behaviour used by experts in interviews is to try to remain neutral and objective. One expert stresses the importance of neutral statements for one's own credibility and emphasises that "as an expert you should not provoke, because the more neutral you convey your expertise, the more credible it is" (m14). Another expert sees rather private reasons as justification for the neutral statements and states:

"Giving personal opinions about anything and consequently violating my life or privacy or family is out of the question. One should be rather reserved. In Austria, it is not desirable to speak out about certain things. It is not desirable to really share your expertise. Rather, it is desirable to make populist and generally technical statements" (m3).

The third behaviour can be summarised as adapting to the medium and their expectations of the interview. One expert says: "So you should look at what kind of medium it is and what the aim of the medium or the programme is, because that's what you have to be able to sell" (f3). Another expert adds that he adapts to media: "I sometimes have the impression that we are some kind of actors. Maybe that's a bit exaggerated, but we are part of a system that has a certain role here" (m8).

The fourth behaviour is to stick to the personal field of expertise in interviews and only make statements about those areas in which one has expertise. A scientist says: "It is better not to comment on issues that do not concern one's own area of expertise. Journalists like to tempt you to comment on the politics of the day or even say something negative about some politician" (w4). Another expert adds his tactics for interviews:

"My recommendation is 'proper preparation prevents poor performance' and only say what you know. And everything else you have to tell the editor in the preliminary discussion - that is not the subject of this discussion" (m2).

The fifth behaviour is to adapt to recipient expectations in communication. "I always try to pass on things in the interviews where you say you can hold on. That the listener, who has to be served, also comes out of this experience with a realisation" (m2) says one expert, for example.

Another expert also stresses the importance of adapting to the recipient and emphasises that it is important to "limit yourself to the most important things, don't try to convey all the scientific complexity, try to get the most important key points across. Formulate the take-home message" (f7).

The sixth behaviour that experts use is that there is pre- and post-interview preparation and that they keep control over what is said after the interviews. One expert highlights the importance of individual preparation for an interview, saying:

"What is simply important is that you really think about the topic you are talking about beforehand and see a little bit in the discussions in public what kind of questions come up. These are often the same things that worry and frighten people. It's important to read up a bit. It is never good to go into any discussion or event completely blind. You have to know what the direction of the medium is, what kind of audience they usually have (f5).

In addition, individual follow-up is also important and "when it comes to written media, that you get the text in advance for proofreading" (m7). Furthermore, some of the experts interviewed follow up the interviews, such as one expert who tries to learn for future media appearances and says: "And one should quite simply question. I go inside myself and look: What I said and how I said it, was that OK or did I convey something somewhere that wasn't quite right?" (f6).

To make an interim summary, first of all it can be said that scientists do recognise a way in which media function. Here, most experts criticise this mode of operation, which they summarise on three points: firstly, that media need clear statements. Secondly, that media abbreviate and simplify statements by scientists and thirdly, that media are primarily thematically oriented towards audience ratings and sales numbers.

This perception of how media work and the experiences with media appearances during the Covid-19 pandemic results in particular behaviours that experts consciously apply in their media appearances. Six behaviours can be identified. Firstly, that the topic

and language is simplified. Secondly, that neutrality is maintained. Thirdly, that the media appearances are adapted to the specific media and their objectives. Fourthly, that the subject matter is kept to one's own area of expertise. Fifthly, that the expectations of the recipients are met and lastly, that media appearances are prepared and followed up.

7.3.4 Summary of Results and Discussion

Finally, the research question *To what extent does the perception of the functioning of media influence the handling of media inquiries?* will be answered.

It turns out that the perception of the functioning of media can be summarised in three points: Most experts see that media can only deal with clear statements. In addition, they shorten statements in their reporting and choose their topic according to what brings good sales figures or ratings.

On the side of dealing with media enquiries, it turns out that seven factors are decisive for the scientists as to whether they accept or reject media enquiries. The first factor is that scientists feel external expectations to provide information. Secondly, that publicity can be given to the research, thirdly, that there is a responsibility to society to appear in the media. Fourthly, that there is time to accept the request. Fifthly, that decisions are made according to medium. Sixthly, that selection is made according to topic and lastly, that there is a desire to accept the media request.

Thus, the perceived functioning of media does not seem to influence the handling of media requests. Rather, the experts develop certain ways of dealing with media in order to adapt to this way of functioning. Six different strategies emerge among the experts. First, they simplify the topic and the language in order to be able to make clear statements for media. Second, they try to remain objective and neutral in their statements so as not to make themselves vulnerable. Third, they try to adapt to the expectations of the recipients and thus pass on practical and action-guiding information. Fourth, they also try to adapt to the expectations of media, for example by adapting to the format in which the experts appear. Fifth, experts stick to their field of expertise and sixth, through good preparation and follow-up, an attempt is made to ensure that no statements can be put into the mouth. As already mentioned in the chapters at the beginning of the thesis, there is no gap between journalists and scientists, but there is still a lack of ability to communicate effectively with each other (Peters, 2013; Petersen et al., 2009). It can therefore be

assumed that these specific behaviours are used to overcome the communication barrier between journalists and scientists.

Moreover, it can be expected that the experts' perceptions of how journalists select experts for their reporting also have an influence on the experts' behaviours. For, as explained in research question 2, scientists think that journalists especially select experts who adapt to media and the goals of journalistic reporting. Thus, there is a certain pressure on the part of the experts to develop these behaviours in dealing with media in order to continue to be selected by journalists for reporting. Moreover, it must be stressed that most experts express that they had almost exclusively positive experiences with media and journalists during Covid-19.

The experts express that the only negative experiences are those in which their role was constructed by media and words were put into their mouths. For example, one expert says: "Well, that always worked well. It was a bit more difficult when, at leaked events, things were constructed that were put into one's mouth without one ever having said it. Or where an intention was assumed" (m8). However, these negative experiences cannot be reduced to one medium, but the experts state that such a negative experience was made in various media and that this is not only to be found in tabloid media. So, the perceived functioning of media played only a minor role in dealing with media enquiries, as the experts had hardly any negative experiences.

Only a few individual experts express that they have had exclusively negative experiences in their media appearances. These, for example, are no longer represented in media and have withdrawn completely. In the case of these experts, it is, thus, evident that the perceived functioning has definitely influenced the decision to no longer appear in media. One expert says: "It is tendentious. Everything is geared towards negative headlines, scaremongering, fearmongering. Every attempt to explain connections in a differentiated way has failed (...). So, I am no longer available to media" (f2).

Consequently, it can be assumed that the satisfaction of media experiences is closely related to the perception of the functioning of media and finally to the handling of media requests. However, this is only a conjecture due to the small sample in the interviews.

The fact that scientific experts have mostly had positive experiences with journalists and media fits Bourdieu's theory and the studies that say that journalists and scientists can work well together and that conflicts rarely arise (e.g. Hanitzsch, 2016; Peters et al. 2008; Weingart 2003). As already described in the theoretical part of the

paper, there is no gap between journalists and knowledge scientists, and the cooperation usually works well and in such a way that both sides are satisfied with the result (ibid.). The complementary types of capital sought by journalists and scientists (Bourdieu, 1998; Hanitzsch, 2016) make it easy for scientists and journalists to work together.

Moreover, the fact that satisfaction is related to willingness to appear in media is not surprising. After all, the Theory of Planned Behaviour includes three predictors that predict behaviour. The first predictor is the belief that the media appearance will be enjoyable (attitude) (Besley et al., 2018). Negative experiences reduce enjoyment of public science communication and have the potential to prevent future media appearances (ibid.). Thus, the Theory of Planned Behaviour is considered to apply in this work as well. Experts who have had almost exclusively positive experiences are increasingly willing to continue appearing in media. In contrast, experts who have had primarily negative experiences are no longer willing to make their expertise available to media. The first predictor of the Theory of Planned Behaviour is hence reflected in this work.

The second predictor (efficacy belief) can also be found in the experts interviewed. Many experts say they believe they can achieve something with their media appearances and fulfil their goals. For example, one expert states:

"We have a press review and see how many people we reach there, and I think we reach a lot more people than through our classic channels like Twitter, website and newsletter. I think it's a good way to reach and inform the general public, and I think we've succeeded in doing that with the topics" (f1).

In contrast, experts who no longer appear in media do not have this efficacy belief. One expert says: "At the beginning I thought I could make a contribution here to actually put things into perspective. To establish proportionality by trying to explain it. But then I realised that it wasn't about my assessment and my experience" (f2).

The third predictor of the Theory of Planned Behaviour is also found in the results. The predictor describes the social pressure perceived by the experts to appear publicly in media. As already discussed in the results, a central inducement to share expertise in media is the pressure that science is publicly funded and thus there is an obligation to appear in media. The Theory of Planned Behaviour does not specify a weighting of predictors or how many predictors need to be met for an action to occur. It should be noted that the third predictor is found in all scientists, even those who are no longer present in the media. A weighting of predictors would be necessary in the Theory of Planned Behaviour to predict behaviour more clearly.

Finally, it can be said that the Theory of Planned Behaviour is also supported and applied in this work. However, the theory only includes three predictors, whereas seven motivations were found in this study. While the Theory of Planned Behaviour only includes intrinsic motivations, the results of this work show that external factors also play a role in whether to appear in media. This raises the question of whether the Theory of Planned Behaviour should include more predictors and needs to be expanded. After all, the Theory of Planned Behaviour attempts to be a comprehensive model to predict planned behaviour. In the case of this study, although the predictors of Theory of Planned Behaviour are consistent, they do not provide a comprehensive explanation for the scientists' behaviour in appearing as media experts. At this point it should be noted that Covid-19 is a special situation, and the scientists have to select between many different media enquiries to an extent, that was rarely the case before. Thus, the inducements identified in this work may vary outside the Covid-19 pandemic as well.

When it comes to scientists' motivations, the results of this work are consistent with studies that find, that the motivations for making expertise publicly available are firstly, publicity for one's own research work, secondly, to build a relationship with society and, thirdly, external pressure to appear in public (Bauer and Jensen, 2011; Besley et al., 2018; Besley and Nisbet, 2013; Dudo & Besley, 2016; Wien, 2014). This is largely due to public funding of research and pressure to publish (Besley et al., 2018). However, the results of this thesis show that there are more than these three motivations for scientific experts to appear in media.

Moreover, the findings agree with previous studies that have also found a sense of responsibility among scientists to appear in media, as they are funded by public money (e.g., Allgaier et al., 2013; Dudo & Besley, 2016; Dunwoody et al. 2009). The factor of external expectations has a certain internal conflict potential for scientists, as on the one hand they can contribute to the modern risk society and provide information through public appearances (Makri, 2021). On the other hand, there is a need for clear and definitive information during Covid-19, which science cannot provide, as scientific processes and findings are characterised by tentativeness and uncertainty (Nguyen & Catalan-Matamoros, 2020).

Regarding the perception of how media work, the results found agree with the studies that discover that scientists do recognise a media logic (Besley & Nisbet, 2011) and do understand the politicisation of scientific findings during the Covid-19 pandemic (Post et al., 2021). However, compared to previous studies, this paper explains the

perceived functioning in more detail and summarises it in three points, as explained in the previous chapters. The results of this study show that the experts have a good level of media literacy overall, which may also be due to the fact that the sample includes scientists who have a lot of media experience. Previous studies show that the media literacy of people exposed to media is higher than that of people who have less contact with media (e.g. Biermann, 2013).

In addition, the finding that scientists consciously adapt to this mode of operation in their public communication and use strategies to protect themselves and have a successful media presence is new. That media-competent experts apply a strategy in their dealings with media and journalists is not surprising at first. However, previous studies have focused on the general relationship between journalists and scientists and have lacked studies that examine the concrete interaction between these two groups. In addition, this study contributes to further developing the Theory of Planned Behaviour and finding more predictors that predict planned behaviour.

8. Conclusion and Limitations

This work dealt with the relationship between scientists and journalists and contrasted the scientific perspective with the journalistic perspective. The aim of this master's thesis was to get a deeper understanding of scientific perspective on journalists and media and to examine the interaction between these two groups in more detail. In qualitative expert interviews, scientists who appeared as experts in media during the Covid-19 pandemic were asked about their perceptions of journalism, the media coverage on Covid-19 and their experiences and dealings with media appearances.

The results show that scientists differ very well between various media and distinguish on the level of the medium as well as on the level of the journalist. However, while differentiating media based on three ways (alternative media versus traditional media; print versus TV versus radio; tabloid media versus quality media), on the level of journalists, scientists only differentiate whether they are qualified or unqualified journalists.

Moreover, the results show that the evaluation of the coverage on Covid-19 is good. However, the evaluation of the coverage is strongly related to the distinction of media. The reporting of quality media is rated best and praised by all scientists, while the rating of the coverage of tabloid media is more differentiated. It depends on the individual medium whether the reporting is successful or not. Online media are consistently criticised by scientists and seen as pandemic drivers.

The experts also criticise the evaluation of the range of experts presented in Austrian media during the Covid-19 pandemic, as no standardised selection process is recognisable for the scientists. According to the scientists interviewed, not all experts presented in media have enough expertise to appear in media. Further result of this work is that scientists certainly recognise a way of functioning of media that can be summarised in three points: Media can only deal with clear statements, shorten reporting, and select their topic according to what promises the best sales figures or ratings.

However, this perception of how media work does not influence how scientists deal with media enquiries. Rather, scientists develop their own way of dealing with media and adopt specific behaviours to adapt to this way of functioning of media. Overall, this work shows that scientists have very good media literacy and evaluate media differently. This media literacy helps them to recognise media logics and to adapt to them in their media appearances as well.

Hence, this work provides a closer look at the relationship between journalists and scientific experts who serve as "sources" for media. This more in-depth look at the relationship between these two groups and how the interaction takes place has been lacking in previous research (e.g. Besley & Nisbet, 2013; Beyley et al., 2013; Editorial, 2004; Petersen et al., 2009; Reed, 2001). Moreover, this work provides new insights into how scientific experts interact with media and journalists, in particular that they have their own way of dealing with media and use specific behaviours to facilitate successful collaborations. In this context, this work also provides new insights into how experts evaluate reporting in the field that is being reported on, allowing for a quality assessment of journalism from the outside.

Experts play an increasingly important role in media reporting. Due to competition and digital media, the pressure to provide up-to-date and reliable information quickly is increasing and experts are an important source and contact point for many journalists (Dernbach, 2012). Therefore, research on experts in reporting and the study of interactions between journalists and experts is more important than ever. This study contributes to facilitating future cooperation between experts and journalists by providing insights and more detailed descriptions of their relationship.

This master's thesis has tried to include experts who have increasingly appeared in Austrian media. The aim was to achieve a gender balance, but equal distribution was not achievable. There are a total of 24 scientists in the sample, 7 of them are women. However, the gender distribution roughly resembles to the gender distribution of the expert appearances in the reporting during Covid-19. Hence, there is a lack of a female perspective on the topic. Additionally, there is only one female expert in the sample who was present in media for a long time but has actively withdrawn from media. Consequently, the perspective of experts who no longer appear in media is also missing and it can be expected that the perspective of these experts would have enriched the findings of this research. Moreover, this study only refers to Austria and Austrian media. Nevertheless, it can be assumed that the results are also transferable to other countries, especially the neighbouring countries Germany and Switzerland. After all, Austria was hit just as hard by Covid-19 as other countries, with the government taking measures to restrict everyday life as well as imposing four nationwide lockdowns (Czypionka, 2020).

Since the majority of experts interviewed for this paper have already had a lot of media experience, it would of course be interesting to find out what the perspective of scientists on journalism and media is and how they differentiate between those who have

little or no media experience. As it can be assumed that one's own experience with media appearances leads to better media literacy (Biermann, 2013) and therefore makes it easier to distinguish between media and journalists. Future research should be dedicated to scientific experts who have less media experience.

In addition, reporting plays an important role during crisis and therefore also during the Covid-19 pandemic (Loss et al., 2021) and has the difficulty of communicating uncertainties. Journalists and media bear a high responsibility for the well-being and security of people, as media provide information that guides action (Loss et al., 2021). Further research should focus Although the findings of this paper suggest that the communication of uncertainty works well, future research should look in more detail at the communication of uncertainty through journalistic reporting and how this is achieved, especially in times of crisis.

Moreover, as already stated in the previous chapters, one serendipitous discovery of this study is that experts do differentiate between alternative media. Consequently, future research should look at the relationship between alternative media and experts and how the relationship is formed. Especially in times of crisis, despite the accusations against scientists, some alternative media, especially online media, do use experts for interviews and reporting. The role of these specific experts and whether they are the same experts selected by traditional media or whether the selection of alternative media is differentiated should be further investigated.

Besides, many experts criticise the range of experts presented in media and say not all experts have enough expertise to be selected by journalists for media appearances. Therefore, the perception of journalistic sourcing and the thoroughness of the selection process varies between journalists and scientists. Consequently, the question arises whether these journalistic selection criteria are applied rather in theory than in practice. It would therefore be interesting and necessary in future research to explore the opposite perspective and find out how journalists evaluate the range of experts and their implemented selection process during Covid-19. A general comparative analysis of different experts based on the journalistic selection criteria would be interesting to find out to what extent the selection criteria stated by the journalists themselves are actually applied in journalistic practice.

Likewise, not only scientific experts are in demand by media during Covid-19, but also experts from other fields appear in media to share their expertise. Thus, future research should also look at experts from other fields, and what their perspective is on

journalists and media and how they evaluate reporting during the pandemic. In particular, the perspective of political experts can add value because, as mentioned earlier, responsible reporting is necessary to maintain society's trust in politics and science. Hence, the observation and evaluation of political developments during Covid-19 by political experts can lead to an improvement in journalistic reporting in times of crisis.

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Appendix

Interview Guideline

Introduction: Assessment of the Quality of Information by Media and Politics

Covid-19 has kept the public and social sectors such as politics in particular, but also media, on tenterhooks for a good year now. Before we go into detail later, we are interested to begin with how they look back in general on the communication about Covid-19 so far.

1. From your perspective, what interim assessment do you make of media coverage of Covid-19? How do you assess the quality of media coverage of Covid-19?
2. In your opinion, what role does reporting by traditional media such as ORF, Kronen-Zeitung or Der Standard play in what the population knows about the health aspects of Covid-19?
 - In addition to the traditional journalistic media (such as ORF, Standard, Kronen-Zeitung, etc.), there are now also many alternative sources of information - especially on the internet. Which ones have you noticed in the past year that you think have an influence on what the population thinks they know about Covid-19?
 - How good do you think the general public's knowledge of Covid-19 is?
3. In Austria, politics itself addressed the public directly to a large extent during Covid-19 - for example, through numerous government press conferences. What is your interim assessment of the government's handling of Covid-19? Did the government sufficiently refer to relevant scientific expertise?

Importance of Experts in Politics

4. To what extent was your personal expertise considered in the course of political decisions on Covid-19?
 - If it was taken into account: Can you please describe how the communication went there (contacting, mutual claims, evaluation of what was made of expertise)?

- Would you wish that your expertise was more strongly demanded by politics? [Or: Would you have wished that...?]
5. In general, how would you describe and evaluate the relationship between science and politics during Covid-19?
 - How should politics deal with the knowledge and assessments of science?
 - To what extent should it be the aim of science to guide political decisions?
 6. What lessons do you personally as a scientist draw from the way politics dealt with scientific expertise during Covid-19?
 - Do you personally think it would be wiser to avoid contacts with politics or should contacts be intensified?
 7. In your opinion, what is the connection between political relevance and media prominence of experts? To what extent do politicians prefer experts who are prominent in media or do media prefer experts who are politically relevant?

Reporting on Covid-19

This brings us to the question of the role of media during Covid-19. We have already talked in general terms about media coverage of Covid-19 at the beginning. Now we would like to focus on the handling of scientific knowledge and expertise.

8. How well do you think media have succeeded in communicating scientific knowledge about Covid-19?
 - Have you noticed any differences in quality between different media? Can you please tell us what you think makes some media report better than others?
 - Can you give us a positive and a negative example?
 - Do you have the impression that media's treatment of scientific knowledge has changed over time? (Has it become more knowledgeable or understanding? Or even rather the opposite?)

9. We have already talked about the fact that there are many other sources besides the traditional media on the internet that "inform" about Covid-19. How do you rate the quality of these sources compared to journalism?
 - Do you have any positive or negative examples for us here as well?
10. The experts play an important role in reporting. How do you rate the range of experts presented by the Austrian media in the context of Covid-19? To what extent do you think that the right or the wrong experts have their say?
 - Have you noticed any differences between the various media?
 - To what extent have you noticed differences in the choice of experts between traditional media and alternative media on the Internet?

Perspectives on Science Communication During Covid-19

Now that we have talked in general terms about your assessments of the public discussion of Covid-19, the following section will focus more specifically on your own experiences with the public communication of your scientific expertise.

11. First, a general question: How did you generally experience the framework conditions for science communication during Covid-19? Do you perceive challenges here, but also opportunities?
12. How important is public communication of your scientific expertise to you in the context of your scientific work?
 - Why is it (less) important to you to share your scientific expertise publicly?

Own Experience as a Media Expert

One way of sharing expertise is to appear in the media as an expert, as you did last year.

13. In general, to what extent did you feel prepared for your role as a potential media expert during Covid-19, or to what extent do you feel prepared?

- Did you have media experience before Covid-19?
- Have you participated in media training?
- Does your organisation (university or institute) provide support in dealing with media?

14. What do you think it takes to be able to fulfil the role of a media expert in a satisfactory way? What kind of skills do you need? And what resources do you need?

15. Now we would like to look specifically at your experiences as a media expert. First of all, I would like to ask you: Can you please tell me about your experiences as a contact person for media in the past year - how many; good, bad experiences did you have? What is your personal assessment?

- Do you remember a particularly remarkable experience that you can tell us about?

16. Can you please tell us how media enquiries developed during Covid-19?

- Were there particular occasions when enquiries clustered?
- Were the inquiries limited to traditional media or was there also contact with or was there also contact with new, alternative formats that we talked about earlier?

17. What does it depend on whether you accept or reject media enquiries?

- To what extent does it make a difference from which media the enquiry comes?
- And did you experience during Covid-19 that journalists have different scientific competence? Do you also decide on the basis of this competence whether you accept enquiries?

- To what extent is it important to you that journalists understand the scientific process?

18. In this context: Research on science communication deals intensively with the potential for conflict between scientific and journalistic principles. Did you experience during Covid-19 that your scientific perspective did not fit the needs of journalists and that there were conflicts between journalistic aspirations and your scientific principles?

- What exactly was the problem there?
- Do you have the impression that journalists are good at dealing with the uncertainty of scientific knowledge?
- How did you refer to the uncertainty of scientific knowledge in your communication with journalists?
- Was this uncertainty sufficiently expressed in the corresponding articles?

19. We have already talked about how intensively and under what conditions you answer media enquiries as an expert. However, we still know very little about your motives for investing time in such activities as an expert. Can you please tell us why you are basically willing to appear as an expert in media? What goals do you pursue with your media appearances?

20. To what extent do you have the impression that you are achieving these goals with your appearances as an expert during Covid-19? Do you reflect on this for yourself?

21. When you now look back on your media expert life in the last year, how satisfied are you with your experiences? What went well, what not so well? And what consequences do you draw (or have you already drawn) for future media appearances?

Resonance with Expert Appearances and Science Communication

You mentioned earlier that the general public should be reached via media. On the one hand, we are currently hearing about the public's great trust in science, and on the other hand about the great scepticism of some sections of the population towards academic elites.

22. How do you perceive the public's opinion of science in general?
23. Do you think that Covid-19 is changing public opinion on science? Can you justify this assessment?
24. Can you please tell me to what extent you personally have received a concrete response to your public appearances? What experiences have you had?
 - Was the response predominantly positive or negative?
 - Can you recognise certain patterns, i.e. that statements made in this or that or that medium on this or that topic generate particularly much or little resonance?
 - Through which channels does this feedback reach you?
25. Can you please describe the negative comments in more detail? How was criticism expressed and what did it refer to?
 - How much did it affect you?
 - How did you react to it?
 - Would you like support in dealing with such negative comments?
26. What advice would you give to colleagues (especially young colleagues) regarding their science communication based on your experience with public feedback? And what consequences do you personally draw from this?
27. And what consequences do you personally draw from the response to your public science communication?

Outlook

In this interview we have talked a lot about the challenges of science communication during the pandemic.

28. To what extent do you see scientific organisations as having a duty to provide support? What support structures would you personally like to see, but also for scientists in general?
29. If you look back at the past year: What did you learn about science communication this year?
30. And what has the pandemic changed in the relationship between science, media, politics and the public? For the better and/or for the worse?

Abstract English

During the Covid 19 pandemic, many scientists appeared as media experts and publicly communicated their expertise. Due to society's increased demand for trustworthy health-related information from experts, scientific experts have gained more experience than ever before in public appearances with media and journalists during the pandemic. This paper contrasts the scientific perspective with the journalistic perspective and examines the relationship between journalists and experts in more detail. It asks to what extent scientists distinguish between media, how they evaluate the coverage on Covid-19 and to what extent they recognise a functioning in media. In 24 in-depth interviews with scientific experts, it was found that scientists have a very good media literacy and differentiate between media. They distinguish and evaluate media on two levels: on the level of the medium and on the level of the journalist. Moreover, scientific experts rate the coverage on Covid-19 as successful, although the rating varies from one medium to another. Finally, scientists certainly recognise a media logic and adapt to this functioning in their media appearances in order to facilitate successful cooperation with journalists.

Abstract German

Während der Coronapandemie sind vermehrt WissenschaftlerInnen als mediale ExpertInnen aufgetreten und haben ihre Expertise öffentlich präsentiert. Durch die erhöhte Nachfrage der Gesellschaft nach vertrauenswürdigen und gesundheitsbezogenen Informationen haben wissenschaftliche ExpertInnen durch Medienauftritte so viele Erfahrungen mit Medien und JournalistInnen sammeln können wie nie zuvor. Diese Arbeit kontrastiert die wissenschaftliche Perspektive mit der journalistischen Perspektive und untersucht die Beziehung zwischen JournalistInnen und ExpertInnen genauer. Es wird beantwortet, inwieweit WissenschaftlerInnen zwischen Medien differenzieren, wie sie die Berichterstattung über Covid-19 bewerten und inwiefern sie eine Funktionsweise von Medien erkennen. Aus 24 Tiefeninterviews mit ExpertInnen wurde deutlich, dass WissenschaftlerInnen eine sehr gute Medienkompetenz haben und durchaus zwischen verschiedenen Medien differenzieren. Dabei unterscheiden und bewerten sie Medien auf zwei Ebenen: auf der Ebene des einzelnen Mediums und auf der Ebene des/der JournalistIn. Zudem schätzen wissenschaftliche ExpertInnen die Berichterstattung über Covid-19 als gelungen ein. Die Bewertung hängt allerdings mit der Differenzierung der Medien zusammen, wodurch die Beurteilung von Medium zu Medium variiert. Darüber hinaus erkennen WissenschaftlerInnen eine Medienlogik und passen sich in ihren Medienauftritten an die Funktionsweise der Medien an, um eine erfolgreiche Zusammenarbeit mit JournalistInnen zu erreichen.