



# Taking the public seriously: the role of respect in interactions between scientific experts and lay publics

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## Abstract

The way we engage with each other in science matters. While some ways of engaging may facilitate interactions, others may hinder them. Trust has been identified as one of the central factors facilitating collaborations between scientific communities and lay communities, and respect has been pointed to as having a central role to play in building and maintaining this trust. But what should respecting others in the interactions between scientific and lay communities involve? What does cultivating respect involve in this context? This paper aims at addressing these questions. In particular, it focuses on the role and nature of respect in the interactions between healthcare providers and patients in order to develop an analysis of the different types of respect and their relative importance in collaborations between scientists and lay publics. Overall, we will argue that understanding the complexity of respect dynamics may help to act appropriately in scientific experts-lay people interactions.

**Keywords** Respect · Trust · Public engagement · Patient-centered approach · Scientific experts · Science and lay publics · Women and healthcare

## 1 Introduction

In the last decades, philosophers of science and science and technology studies scholars have investigated the complex relationship between science and society. Science is a product of society, produced by scientific experts who are also members of society, has a major and often disruptive impact on society, and plays a central role in everybody's everyday life (e.g., Douglas, 2021; Jasanoff, 2006; Owen et al., 2012).

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Acknowledging this complexity, recent institutional policies have promoted the idea that the development of science is and should be closely tied to the development of society and that scientific values and priorities should be closely aligned with the values, needs, and expectations of society (European Commission, 2009; von Schomberg 2013). In this framework, cooperation between scientific communities and lay communities is understood as not only desirable but also essential to successfully address societal challenges and serve citizens' needs (European Commission, 2009; Owen et al., 2021). The idea is that by promoting collaborations in which scientific experts and lay people have the opportunity to contribute their expertise and values - being that in citizen panels and assemblies or in one-on-one scientific expert-lay person interactions, such as those between a healthcare provider and a patient - we enable science and society to attain new knowledge and address societal needs.

As the recent SARS-CoV-2 pandemic has shown, promoting fruitful interactions between scientific communities and lay communities is a particularly urgent matter given how vital successful collaborations can be to ensure we create and maintain private as well as public goods (e.g., herd immunity). The way we engage with each other in science (e.g., with other researchers or members of the public) matters. While some ways may facilitate interactions, others may hinder them. Trust has been identified as one of the central factors facilitating collaborations between scientific communities and lay communities as well as between researchers (Rolin, 2020). Moreover, the literature has pointed out that a number of factors may play a role in building and maintaining trust. Respect is one of these factors (Dave et al., 2018). While respect has been extensively analysed in the philosophical literature (e.g., Darwall, 1977; Dillon, 1992), its role in science has received limited attention. However, if respect is instrumental in facilitating fruitful interactions between scientific experts and lay people and fostering trust, then it is of pivotal importance to clarify what it means to respect others in these interactions and what cultivating respect would involve.

This paper addresses these questions by focusing on the role and nature of respect in the medical context. Respect has been traditionally understood as one of the central principles guiding (Western) healthcare practices (National Commission for the Protection of Human Subjects of Biomedical & Behavioral Research, 1979), and its role in the relationship between healthcare providers and patients has been extensively discussed. We will develop this analysis further by exploring the different types of respect that are relevant in these interactions. It should be noted that the medical context is not the only context where having fruitful interactions is desirable. The challenges posed by issues such as climate change and the role of social media in the spread of misinformation have a disruptive impact on society and hence call for effective collaborations between scientific and lay communities as well.<sup>1</sup> This paper aims at

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<sup>1</sup> A further point that should be considered is that the medical context may involve different types of interactions, such as scientific experts and lay people cooperating in research and one-on-one clinicians—patient interactions, which may in turn differ in their aims (e.g., communicating a diagnosis or discussing a treatment). These differences may be important in determining which types of respect are relevant and which practices effectively convey respect. Thanks to an anonymous referee for pushing us to clarify this point.

providing an initial analysis of the role and importance of respect in contexts in which scientific experts and lay publics cooperate. We will argue that lay publics are entitled to respect simply in virtue of their personhood and also for the particular roles they instantiate, such as the role of a patient. Moreover, this should involve a recognition of their status as an epistemic agent which means both respecting their epistemic rights and recognizing their potential to make useful contributions to knowledge production.

The paper is structured as follows. Section 2 will present contrasting approaches to scientific-lay communities interactions. Section 3 will provide an overview of the literature on the role of trust and respect in science, and how respect may facilitate creating and building public trust in science. Moreover, it will present the various nuances that respect may take and introduce Stephen Darwall's distinction between two main types of respect, i.e., recognition respect and appraisal respect (Darwall, 1977). Section 4 will introduce some case studies from the medical literature on the interactions between scientific experts and lay people, which will be analysed through the lenses of recognition respect and appraisal respect in Section 5. Overall, we will argue that understanding the complexity of respect dynamics may help to act appropriately in scientific experts-lay people interactions.

Before going further, we will first clarify the way we use labels such as "scientific communities", "lay communities", and "lay public". These terms and distinctions have been criticised for being overly narrow and simplistic. First, these terms suggest the lay public to be a homogeneous group of individuals, overlooking the significant differences that exist within the public, which may lead to significantly differing attitudes towards science (Jasanoff, 2014; Paterson & Larson, 2012). To emphasise this heterogeneity, it has been proposed that the term lay publics should be used instead. Second, the distinction between scientific experts and lay publics has been criticised for promoting an understanding of these as two discrete, detached groups (e.g., Wynne, 1996). It has been argued that whether an individual should be understood as an expert or not depends on contextual factors, such as the question that needs to be addressed and the type of knowledge and expertise relevant to the specific situation (Owens, 2000, p. 1141; Hardwig, 1994). Rather than seeing these as two discrete groups, we should instead accept that this distinction is complex and forms "a continuum rather than a sharp divide" (Grasswick, 2010, p. 389).

Although we do not understand the distinction between scientific experts and non-experts as a sharp divide, in our analysis we will use these terms. We are sympathetic to the aforementioned concerns and take them as an appropriate starting point to understand the epistemic and ethical questions raised by the collaboration between individuals in science and to ensure the development of fruitful practices. Nevertheless, the distinction between scientific communities and lay communities or scientific experts and non-experts remains a valuable one when considering contexts of scientific public engagement and interactions where individuals and groups have distinct roles, responsibilities, and power positions, such as in the clinician-patient encounters.

## 2 Beyond the deficit model: interactions between scientific and lay communities

The importance of building cooperative, dialogic interactions between scientific and lay communities has been promoted in various contexts. In the medical context, patient-centered approaches have become increasingly popular in recent decades (Balint, 1957; Miles & Asbridge, 2017; Akseer et al., 2021; Loughlin, 2020). These approaches depart from the traditional understanding of the practitioner-patient relationship as involving an encounter between an active, authoritative doctor and a passive patient. Instead, these approaches promote the idea of making this relationship cooperative, one involving shared decision-making (Bensing et al., 2000, pp. 1–2). These approaches appreciate that the particular situation of the patient needs to be taken into account in order to deliver good quality care (Bechtel & Ness, 2010) and that diversity among patients is the rule rather than the exception (Bensing et al., 2000, p. 2; see also Pérez-González & Jiménez-Buedo, 2023).

This emphasis on cooperation between scientific experts and lay people is mirrored in several institutional measures and research frameworks. For instance, the Responsible Research and Innovation approach (RRI) adopted by Horizon 2020, the European Union's programme for research and innovation from 2014 to 2020, promotes the idea that science should be done *with* and *for* society (Blok, 2023; Figueiredo Nascimento et al., 2016; Owen et al., 2012).<sup>2</sup> This means both engaging with the knowledge of citizens and respecting the needs, values, and ideals of European society, for instance through running citizen assemblies and panels at multiple stages of the scientific process, i.e., public engagement activities (Rask et al., 2018, p. 9).

One fundamental assumption underlying what we will call “cooperative approaches” (e.g., RRI's Public Engagement approach and Patient-centered approach) is that collaboration between scientific and lay communities can have important epistemic and social benefits (Ivani & Dutilh Novaes, 2022). Lay people may have relevant local knowledge formed from personal experience that scientific experts lack (Barrotta & Montuschi, 2018; Douglas, 2005; Krick, 2022). That knowledge may contain precious epistemic resources, such as the knowledge patients have about the symptoms of a disease, or important social resources, such as an understanding of moral concerns that are widespread in a particular community. Integrating these resources into scientific decision making can both advance the epistemic aims of scientific practices and make scientific communities able to serve societal needs and improve living conditions.

Cooperative approaches depart from the traditional approach to interactions between scientific and lay communities which is commonly known as the Deficit Model (Bodmer, 1985; Miller, 2001). The Deficit Model acknowledged how intertwined science and society can be, but promoted one-way communication strategies: scientists educate, inform, and advise the lay public, and the public passively receives this information (Bodmer, 1985, p. 24; Miller, 2001, p. 115). A core assumption of the Deficit Model was that publics are fundamentally ignorant about science and it is

<sup>2</sup> Beyond Europe, public engagement has been widely adopted around the world (Weingart et al., 2021, p. 2) and is a central commitment of programmes promoted by the South African Agency for Science and Technology Advancement, the Japan Science and Technology Agency, and the American Association for the Advancement of Science.

this ignorance that lies behind public opposition to scientific innovations and interventions. Scientists, then, should address these deficits in scientific understanding by educating the public about science, to increase public trust in science.

The Deficit Model has been criticised for holding a flawed understanding of lay publics and for recommending one-way communication strategies that fail to deliver on their promises to reduce public hostility to science (Dutilh Novaes & Ivani, 2022; Miller, 2001). The cooperative approaches differ from the Deficit Model on various levels and are supposed to attend to the issues that the Deficit model was unable to solve. For instance, while both promote interactions between scientific communities and lay communities, the Public Engagement approach adopted in RRI prioritises dialogues over lectures and understands citizens as capable and valuable contributors to these dialogues. Moreover, cooperative approaches promote the idea that lay people are entitled to play an active role in scientific decisions, especially those which will have a major impact on their lives (Ivani & Dutilh Novaes, 2022, p. 54; Figueiredo Nascimento et al., 2016; Douglas, 2005).

However, attempts to transition from the Deficit Model to cooperative approaches have faced several managerial, technical, and motivational difficulties, such as ensuring an adequate number of participants, avoiding the exclusion of people needing assistance, and managing conflicts between participants (Rask et al., 2018, pp. 107–108). Some have questioned whether a genuine shift away from the Deficit Model has really taken place, arguing that public engagement initiatives still aim at generating support for predetermined approaches (Stilgoe et al., 2014, p. 6) and that the idea of the public as a fundamentally ignorant and non-scientific “other” remains widespread in the scientific community (Weingart et al., 2021, p. 17; Simis et al., 2016, p. 408). Similar criticisms have been raised against attempts to implement patient-centered approaches, with critics arguing that these often fail to engage in genuine consultation with patients (Bechtel & Ness, 2010). For instance, Bechtel and Ness have argued that sometimes institutions have only nominally adopted a patient-centered approach and designed healthcare models without consulting patients, based on the idea that “if we simply build a system the ‘right way’, patients will embrace it” (Bechtel & Ness, 2010, p. 914). However, healthcare institutions rarely have a complete picture of what patients prefer and need when it comes to healthcare systems.

Despite these problems with implementation, cooperative approaches now play a prominent role in science governance (Weingart et al., 2021). But how can productive engagement between scientists and lay communities be facilitated? A number of studies have investigated how to bring about fruitful exchanges between scientific and lay communities (Rask et al., 2018), and trust has been identified as one of the main factors facilitating exchanges (Rolin, 2020). A large body of literature has explored the epistemic and ethical importance of creating and maintaining public trust in science, and which elements may facilitate creating and maintaining trust (e.g., Dave et al., 2018; Furman, 2020). One key factor identified in this literature is the role of respect. While respect is considered as one of the central principles guiding healthcare practices (National Commission for the Protection of Human Subjects of Biomedical & Behavioral Research, 1979) and it has been extensively investigated in ethics, the analysis of its role in the two-way communication strategies promoted by cooperative approaches has been limited. In the remainder of this paper, we will investigate the

forms of respect that need to be developed in order to facilitate fruitful and ethical interactions between scientific experts and lay communities.

### 3 Trusting and respecting the publics

A large and growing body of literature has investigated the role played by trust in science. Trust is a “cooperation-enabling resource” (Dimock, 2020, p. 160), that facilitates effective collaboration between those involved in scientific research. This is true for relationships within the scientific community, as trust between researchers makes possible an efficient division of labour, production of knowledge, and education (e.g., Frost-Arnold, 2013; Hardwig, 1991), and it is also true for the scientific experts—lay people relationship. Trust in science has an important influence on the extent to which interactions between scientific and lay communities will be fruitful in attaining social or epistemic goals (de Melo-Martín & Intemann, 2018; Goldenberg, 2021). For instance, empirical studies highlight that in community-academic research partnerships, mutual trust between community members and researchers is central to ensure that such projects promote epistemically successful cooperation between academic institutions and members of the community (e.g., Dave et al., 2018; Nichols et al., 2013). Moreover, trust in science is one of the elements determining whether or to what extent lay publics will rely on science when making important decisions. For example, trust in science may facilitate uptake of vaccinations amongst the public (Goldenberg, 2021), while distrust in science has been found to play an important role in vaccine refusal (Goldenberg, 2021) and climate change denial (Cologna & Siegrist, 2020).<sup>3</sup> Philosophers have argued that both epistemic and social trust play an important role to ensure fruitful interactions in science (e.g., Rolin, 2020). This means that both competence, i.e., whether experts are perceived as knowledgeable in the relevant matters, and benevolence, i.e., whether they are perceived to display good will and moral virtues such as honesty, contribute to building and maintaining trust between scientific experts and lay people (Ivani & Dutilh Novaes, 2022; Rolin, 2020).<sup>4</sup>

Given the importance of trust in making the relationship between scientific experts and lay people epistemically fruitful and socially beneficial, recent attention has focused on exploring which factors may help build and maintain trust. Several lines of

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<sup>3</sup> On a more fundamental level, some have argued that trust is not only central for the lay publics to be able to rely on science when making important decisions, such as whether to get vaccines or not, trust would also play a fundamental role in determining what counts as expertise and who has expert status (Giubilini et al., 2023). For instance, Giubilini and colleagues have argued that “expertise is not an intrinsic property of an individual or a group thereof, which can be established simply through conceptual analysis and independently of the societal dynamics and relationships in which it is created. Instead, expertise is the possession of any set of epistemic features that warrant trusting someone as an expert.” (Giubilini et al., 2023, p. 7). That is, expertise depends on being trusted as having expert authority: one does not count as an expert “without being trusted as an expert” by a relevant public (Giubilini et al., 2023, p. 3).

<sup>4</sup> A number of examples from the history of science show how distrust and perceiving scientific experts as not competent and / or benevolent may obstruct science’s chances to benefit society (de Melo-Martín & Intemann 2018, p. 89; Baghramian & Panizza, 2022). It should be noted that the claim that society is now facing a general crisis of trust in science has been criticised. Some studies show that lay publics still trust and positively evaluate science and scientific experts’ impact on society. See for instance Gundersen et al. (2022).

research suggest that respect plays a crucial role in the relationship between healthcare providers and patients and in promoting trust. For instance, Elander and colleagues found that:

In relationships between healthcare providers and patients, respect and trust develop in a process that begins with providers' attitudes toward patients, which are reflected in provider behaviors when interacting with patients. Patients' experiences of those behaviors, and their perceptions and beliefs about their treatment, then contribute to the degree of trust between patient and provider, which in turn influences how subsequent behaviors are interpreted (Elander et al., 2011, pp. 405–406).

Other studies report similar results. For instance, Bridges and colleagues report that the literature in medical ethics shows how conveying respect may foster “equitable health outcomes, patient satisfaction, and mutual trust” (Bridges et al., 2021, p. 2; see also Kraft et al., 2021; Beach et al., 2017). Dave and colleagues have investigated which elements may contribute to creating and maintaining trust in community-academic research partnerships, and to improving public trust in scientific research. Their results show that having “mutually respectful and reciprocal relationships” was one of the elements “with the highest importance ratings for creating and maintaining trust in partnerships and supporting public trust in research” (Dave et al., 2018, p. 74). In a study aimed at illustrating transgender patients' experiences in encounters with healthcare staff, Carlström and colleagues report that the demand to be treated with respect was the recurrent theme in the written self-reports submitted by their participants (Carlström et al., 2021, p. 601). Given that trusting someone may be understood as putting oneself in a position of vulnerability towards them (e.g., Baier, 1986), it is unsurprising that respect has been found to play a crucial role in facilitating trust in scientific experts-lay people interactions. Engaging with scientific experts and deciding to trust them on important matters such as vaccinations involves making oneself vulnerable to the possible ill will or mistakes of experts (Dhairiyawan, 2021; Furman, 2020). It is not surprising then that the literature reports that feeling that one is treated with respect and that one's well-being, dignity, and vulnerability are properly honoured in the interactions with experts may be identified as a central factor in building and maintaining trust and facilitating collaboration between scientific experts and lay publics (Beach et al., 2005; Bridges et al., 2021; Elander et al., 2011).<sup>5</sup>

Given the fundamental role that respect has in promoting fruitful interactions between scientific experts and lay people and public trust in science, clarifying what respect involves is of pivotal importance. How should respect be understood here? The notion of respect has been widely analysed in the philosophical literature. The key questions that philosophers have investigated in relation to respect is how we should define respect (e.g., Darwall, 1977; Hudson, 1980;) and what principles should

<sup>5</sup> For instance, Furman argues that the introduction of HIV/AIDS treatments in South Africa in 2004 was not received well by citizens because trust in healthcare providers was significantly undermined by the resentment and anger caused by a past of medical abuse experienced by South Africans, who saw medical sciences used to justify racism and segregation for a long time (Furman 2020, pp. 718-719). Here, the past behaviour of scientific experts had significantly lowered the trust that many South Africans had in the scientific community and made them unwilling to put themselves in a position of vulnerability towards scientists.

guide the practice of respect (e.g., Dillon, 1992). For instance, when it comes to defining respect, Carl Cranor argues that respect for persons should be understood as a relationship between four elements: “a person who respects (a respecter), a respected object, some characteristic in virtue of which the object is respected (the basis of respect), and some evaluative point of view from which the object is respected” (Cranor, 1975, p. 310). For example, suppose Janneke respects Van Gogh as an artist. Here we have the respecter (Janneke), the respected object (Van Gogh) and a characteristic in virtue of which that object is respected (his artistic talent). This respect also stems from an evaluative perspective in which artistic talent is a positive quality to possess. When we respect someone, we may attend to different features of that person, and the basis for respecting a person is some characteristic the respecter believes that person to possess (Cranor, 1975, p. 311). This rules out the property of a person of being useful for us as a basis for respect, i.e., it excludes utilitarian reasons for respecting a person (Cranor, 1975, p. 311).

Robin Dillon has argued that “[t]he person who respects something perceives it quite differently from one who does not respect it and responds to it in light of that perception” (Dillon, 1992, p. 108). Respect can then be understood as a specific mode of perceiving something (Dillon, 2007, p. 202; see also Giorgini & Irrera, 2017), which informs the ways we treat it, and as a kind of valuing (Dillon, 1992, p. 108). It should be noted that respect is a kind of valuing which differs from other forms of valuing in important respects. For instance, respecting someone is different from liking someone, since we can respect an individual we do not like (Dillon, 2020), as when we do not like but nonetheless respect a political opponent.

A widely accepted point in the philosophical literature on respect is that there are (at least) two different kinds of respect. As Stephen Darwall (1977) argues, when we say that someone has respect for someone else, there are two different forms of respect we might be referring to. The first form of respect is recognition respect. This form of respect consists of “giving appropriate consideration or recognition to some feature of the object in deliberating about what to do” (Darwall, 1977, p. 38). In other words, to have recognition respect for someone else involves recognising some fact about that person and taking that fact into account in the appropriate way when deciding how to act. To have recognition respect for someone as a person, for example, involves recognising their personhood and taking this into account appropriately when deciding how to act, for example by not violating their rights. As Immanuel Kant argues, possessing rational agency makes one “an object of respect” and so “limits all choice” (Kant, 1997, p. 37). In other words, recognising someone as a person means recognising them as someone who is owed respect and this in turn means recognising that this places restrictions on how you may act in relation to them. People may also receive recognition respect in relation to a particular role they occupy. To respect someone as a police officer, for example, would involve recognising that they occupy this role and responding appropriately to that fact, perhaps by recognising the special authority they possess as a result of occupying this role.

The second form of respect is appraisal respect. This form of respect consists of a positive appraisal of someone or of the qualities that they possess (Darwall, 1977, p. 39). This is the form of respect someone refers to when they say they respect someone’s talent as a musician or an actor. Here, respect consists of making a positive



evaluation of someone's abilities. Unlike recognition respect, appraisal respect need not involve any judgement about how one should act in response to the person one feels respect towards. One might judge some form of behaviour to be a fitting way of responding to the appraisal respect one has for another. For example, we might think it is appropriate to congratulate someone on their excellent qualities. However, this judgement is not part of the respect itself, as appraisal respect consists simply of the positive appraisal of someone's qualities.

For our purposes, the crucial difference between these two forms of respect is that one involves an appraisal of the qualities and abilities someone possesses (appraisal respect), while the other makes no such appraisal and simply recognises some feature of that person and responding to it appropriately in one's behaviour (recognition respect). For Darwall, all persons deserve recognition respect in response to the dignity or authority they possess as free and rational agents (Darwall, 2006, Ch.6). This recognition respect need not be at all sensitive to how developed someone's rational capacities are, providing they meet a certain minimal level of rationality. We should not, then, have more recognition respect for highly developed rational thinkers than we do for those whose reasoning abilities are more limited. In having recognition respect for someone as a rational agent, we simply recognize that this person's rational agency places constraints on how we should behave towards them. Recognition respect for someone as a rational agent involves treating everyone who counts as a rational agent as entitled to make decisions for themselves.

Given these two different kinds of respect, how should we understand the kinds of respect that are sought in interaction between scientists and lay publics?

A substantial body of literature has investigated how patients and healthcare providers define respect and which behaviours they understand as respectful in a variety of contexts. Dave and colleagues have identified a range of behaviours that are associated with respect, such as recognition of strengths and unique capabilities of all partners, accountability, asking for, valuing, and incorporating community input at all phases of research project, and keeping commitments, promises, and obligations to each other (Dave et al., 2018, p. 75). Other studies emphasise the importance of clear and transparent communication (Bridges et al., 2021; Kraft et al., 2021), proper attention to facilitating informed consent (Kraft et al., 2021), and ensuring continuity of care (Bridges et al., 2021). Perhaps most importantly, a notable finding common across many of these studies is the importance people place on being treated as individuals and feeling that one is *seen*, whether that be straightforwardly in being recognised as individuals (Dickert & Kass, 2009), being accepted for who one is (Carlström et al., 2021, p. 602), being treated as a research participant rather than a research subject (Dave et al., 2018, p. 75), or perceiving that one's cultural background has been acknowledged (Bridges et al., 2021, pp. 6–8).

Some studies investigating the role of respect in the clinician-patient relationship briefly mention Darwall's distinction. For instance, Beach and colleagues investigate the moral obligation of health professionals to respect patients (Beach et al., 2007). In the Western healthcare framework, respect has traditionally been understood as one of the fundamental ethical principles of medical practice and medical research involving human subjects (e.g., National Commission for the Protection of Human Subjects of Biomedical & Behavioral Research, 1979). They challenge the traditional Western

idea that respect for patients would be equal to respecting their autonomy. They argue that focussing on autonomy as the appropriate object of respect may distort respect for persons by leading experts to focus on whether the patient is using their autonomy to pursue acceptable goals. In doing so, this may promote a view of respect as requiring admiration (i.e., an assessment of patients' capacity to think and act autonomously, Beach et al., 2007, p. 693).<sup>6</sup> However, they argue that clinicians' respect for patients should not depend on finding something admirable in patients, as there is no general requirement for people to find everyone admirable (Beach et al., 2007, p. 693). Rather, clinicians' respect for patients as persons, or recognition respect, should be what guides these interactions (Beach et al., 2007, p. 694).<sup>7</sup>

Challenges to understanding respect as preserving autonomy have been raised by other studies too. This understanding of respect has increasingly become the dominant understanding of respect within global medicine (Padela et al., 2015, p. 104). Padela and colleagues have argued that we can notice a "West-to-East exportation of medical knowledge", a process of medical globalisation in which medical practices become increasingly homogeneous and aligned to Western models of healthcare (Padela et al., 2015, p. 99). However, this may come at the cost of overlooking important cultural differences in how central notions, such as respect, are understood. Respecting people's autonomy is not the only way in which people can be respected as individuals, and we may need multi-faceted and culturally tailored versions of the principle of respect for persons (Padela et al., 2015, p. 106).

This empirical literature can provide a useful starting point here. Some of the traits and behaviours associated with respect can be seen as displays of recognition respect, while others should be understood as displays of appraisal respect. For example, recognising the specific forms of expertise that members of lay publics may possess is a form of appraisal respect, as it involves positively appraising people's knowledge and expertise. On the other hand, respecting people as individuals with unique needs, values, and desires should be understood as a form of recognition respect, as it

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<sup>6</sup> One possible response here is to argue that autonomy should be understood relationally, so that respecting autonomy involves fostering autonomy in patients. Such an approach has been suggested by several bioethicists (e.g. Jeffrey, 2020, Jennings, 2016, Lang & Micah Hester, 2021 and Sherwin and Stockdale, 2017). However, as Gómez-Virseda and Usanos, 2021 argue, these accounts have not yet offered a positive alternative to individualist accounts of autonomy that are capable of being put into practice in medical ethics. We do not wish to take a stand on this issue here and intend the account of respect we offer in the remainder of the paper to be compatible with such relational accounts of autonomy. For our purposes, it is enough to acknowledge the significant challenges that remain in understanding autonomy as the basis for the respect that clinicians should have for patients.

<sup>7</sup> Beach and colleagues here emphasise the risk that, when autonomy is the focal point of respect, autonomy becomes the lens through which we evaluate patients and decide whether they deserve respect, and this may lead to disrespecting (some) patients. This means that healthcare providers may end up respecting only those patients who can honour their autonomy, those who do not *abuse* their autonomy. Understood in this way, respect involves some sort of liking or admiration, since healthcare providers end up respecting only those patients they like, see as admirable, and as having admirable goals and preferences when it comes to making use of their autonomy. For instance, Beach and colleagues mention that when respect is understood as mainly in terms of autonomy, healthcare providers sometimes end up respecting only the patients who use their autonomy to pursue what they perceive as honourable goals (e.g., preserving one's own health status and persisting in treatments despite serious illness), while disrespecting those patients who use their autonomy to pursue goals that are not perceived as honourable (e.g., relapsing drug addicts; Beach et al., 2007, 693).

involves respecting people for their personhood. Moreover, if, as proponents of RRI and patient-centered approaches, science should be responsive to people's needs and values, respectful scientific experts—lay people interactions should pay attention to these differences and consider the needs and values that people may have. We can see this as a call to respect people's individuality by taking seriously what those people understand as respectful behaviour in scientific contexts. In general, then, it seems that being taken seriously as an individual human being with distinct preferences, values, needs, and bodies of knowledge is a core part of how people understand what it means to be treated with respect.

Based on Darwall's distinction of types of respect and to the variety of elements associated with respect highlighted by the empirical literature, in the next sections we will address the following questions: Which kind of respect should be cultivated in the interactions between scientific experts and lay people? Are there types of respect that are particularly relevant when it comes to making these exchanges safe, fruitful, and effective (i.e., able to deliver epistemic and social benefits)?

#### 4 Respect in interaction between healthcare providers and patients

Lay people are not always treated as valuable partners by scientific experts. When talking about the increasing amount of researchers who engage and interact with lay publics, the Vice President of the European association for the advancement of science and technology EuroScience Gail Cardew notices that many "take an interest in their audience and give thoughtful, sensitive answers to audience questions", while others "become confrontational at any remark interpreted as questioning their expertise [...] dismiss questions they deem irrelevant or stupid" (Cardew, 2020, p. 9), and argues for the need of a kinder research culture to ensure public support for research. Indeed, despite the increasing centrality of cooperative approaches, studies report that citizens' participation in public engagement activities is not always welcomed by scientists and institutions. A recent survey explored researchers' thoughts and concerns related to the Responsible Research and Innovation approach. While the study reports that many researchers welcome the view promoted by this approach, they also expressed a number of concerns. One of the worries was that the public is usually not well informed on scientific matters, and this may limit the relevance of citizens' inputs (Carrier & Gartzlaff, 2020, p. 157). Moreover, some researchers expressed the concern that engaging with non-scientific interlocutors may actually undermine the goal of making research and innovation more responsible. In particular, the financial interests of some non-scientific actors (e.g., pharmaceutical industries) may constitute "a source of bias on the selection of research topics" (Carrier & Gartzlaff, 2020, p. 157). All in all, the survey reveals that scientific experts sometimes see non-experts' contributions as trivial or unrealistic and they fear that their inclusion in scientific decisions may significantly impair creativity and freedom in science (Carrier & Gartzlaff, 2020). Similar findings have been reported in other studies. Small and Mallon found that researchers welcome the idea that citizens are entitled to a role in important decisions in science (e.g., those regarding research agendas), but they are also concerned about the degree to which the public should be involved in such decisions (Small & Mallon, 2007).

For instance, some of the researchers interviewed reported that an issue comes from the public having “strong viewpoints based on poor knowledge or misinformation” (Small & Mallon, 2007, p. 110), and that allowing citizens to have a central role in decision making in science may paralyse scientific progress (Small & Mallon, 2007, p. 111).

While researchers’ concerns may be legitimate in some cases, there is also a fundamental issue regarding whether or to what extent scientific experts are able to adequately evaluate lay peoples’ inputs. Turning to the literature focused on the medical context, it emerges that patients have not been and are not always seen and treated as valuable partners and interlocutors by medical experts. Recent studies offer insights on the injustices that lay people may experience when engaging with scientific experts and scientific institutions (e.g., Grasswick, 2017). Ill people tend to experience epistemic injustices in their encounters with healthcare providers, i.e., patients are wronged in their capacity as knowers (Carel & Kidd, 2014). Clinicians often see patients as irrational, emotionally unstable, and cognitively unreliable, and their reports on symptoms and conditions as bearing negligible information and expressed in a scientifically inappropriate manner (Carel & Kidd, 2014). During medical encounters, their inputs are then unjustifiably “dismissed as irrelevant, confused, too emotional, unhelpful, or time-consuming” by healthcare providers (Carel & Kidd, 2014, p. 530). In these cases, it has been argued that patients are given unjustified low credibility as epistemic agents because of clinicians’ prejudices, i.e., they experience a type of epistemic injustice called testimonial injustice (Carel & Kidd, 2014, p. 530).

This section will examine some of the problems involving respect that arise in the scientific experts-lay people interactions. The history of medicine is densely populated by instances that raise questions regarding respect in the scientific experts-lay people interactions. In many instances, patients and groups of activists have demanded that scientific experts take their inputs seriously and to be seen as entitled to have a say on scientific decisions that may affect their living conditions. The AIDS movements constitute a topical example of these activities. Developed in the 1980s in the US, AIDS movements fought for being actively involved in scientific practices, to make sure that the needs and concerns of the relevant groups (e.g., people with AIDS/HIV infection and health educators) were considered by scientific institutions and could have a significant impact on important decisions, such as decisions regarding research agendas and clinical trial design (Epstein, 1995).

This section will offer three short examples to explore the respect dynamics in the interactions between scientific experts and lay people. Two of them concern women’s experiences with healthcare, i.e., the literature on the encounters between women with endometriosis and healthcare providers and studies on women’s experiences with healthcare during labour and birth. The third example concerns research on interactions between healthcare providers and vaccine hesitant parents. Although this example does not focus on women’s experiences only, the fact that women are often the primary caregivers means that this example is closely connected to the other two.

An example of how patients may be treated disrespectfully are women’s experiences with healthcare. Women have often been silenced in medical contexts, their questions, concerns, and pieces of information dismissed or ignored by clinicians, and, as a consequence, their health issues misdiagnosed (e.g., chronic fatigue syndrome, mental

health, and sexual health; Cleghorn, 2022). For instance, studies show that one of the causes of delay in diagnosis of endometriosis is doctors normalising or belittling the pain reported by women:

Women often described a sense of being “dismissed” by the family doctor. Indeed, when asked to identify the least helpful aspects of their treatment of pelvic pain, the majority of women cited their perception of doctors’ disbelief surrounding the genuineness or severity of their symptoms. Many recalled being told by the family doctor that because their pains were “just normal period pains” this was something they had to cope with (Ballard et al., 2006, pp. 1298–1299).

This type of medical encounters sometimes led women to question themselves and their capacity as knowers and providers of reliable information regarding their own body and experience of pain and diseases, and to ask themselves whether “they were ‘going mad’ or whether the ‘pain was in [their] head’” (Ballard et al., 2006, p. 1299). Similarly, in a study on women’s experience with endometriosis and primary care, Denny and Mann report that women frequently “did not believe that their symptoms were always taken seriously” by clinicians (Denny & Mann, 2008, p. 113), with terms such as ‘fobbed off’ and ‘dismissed’ used to describe their encounters with clinicians (Denny & Mann, 2008, p. 114). Not being taken seriously by doctors, Denny and Mann report, was the most common cause of women’s dissatisfaction with GP encounters reported in their study (Denny & Mann, 2008, p. 114). Along the same lines, in a study on levels of satisfaction with medical support in women with endometriosis, Lukas and colleagues reveal that not to be taken seriously was a relevant issue (Lukas et al., 2018), with, e.g., having one’s pain and mental health struggles being appropriately considered as one of the factors leading to better satisfaction.

A further example of women’s disrespectful treatment in healthcare is provided by the extensive literature on traumatic experiences during labour and birth (e.g., Bowser et al., 2010; Bohren et al., 2015; Vedam et al., 2019). In a study on the Dutch maternity care system, Van der Pijl and colleagues report a variety of issues. For instance, among the main issues experienced by women there are lack of informed consent, not being taken seriously, and not being listened to by healthcare providers (e.g., not being consulted by healthcare providers about performing interventions, having their sensations during labour not taken seriously, and having their refusal or request to stop an intervention ignored; van der Pijl et al., 2020). Reed and colleagues report similar issues in a study exploring experiences of childbirth trauma around the world (Reed et al., 2017). For instance, women often report that care providers disregard their knowledge, do not appreciate their inputs regarding labour progress and foetal wellbeing, and dismiss or ignore their questions and concerns (Reed et al., 2017, p. 4).<sup>8</sup> Moreover, birth experiences are frequently described by women as violating, humiliating, barbaric,

<sup>8</sup> It should be noted that the literature indicates that some sociodemographic factors may exacerbate these dynamics and foster disrespect. For instance, some studies show that non-white pregnant women tend to experience mistreatment more frequently than white pregnant women. See for instance Vedam et al., 2019, which reports that in the US “Black women, Hispanic women, Asian, and Indigenous women were twice as likely as White women to report that a health care provider ignored them, refused their request for help, or failed to respond to requests for help in a reasonable amount of time” (Vedam et al., 2019, p. 8). Thanks to an anonymous referee for pushing us to clarify this point.

reminding of/resembling sexual assaults, and involving healthcare providers treating them “like a piece of meat” (Reed et al., 2017, p. 6).

These are just a couple of examples of women not being taken seriously by healthcare providers. Extensive research has highlighted the many ways women have not been taken seriously by healthcare practitioners (e.g., Cleghorn, 2022; Dhairyawan, 2021; Dusenbery, 2018). Taking medical decisions on women’s behalf, delegitimizing women’s speech, and dismissing and not taking their health reports seriously are all practices that stem from a number of fundamental issues. Maya Dusenbery has argued that, when it comes to women and healthcare, medical sciences are impaired by a knowledge gap and a trust gap:

Women’s symptoms are not taken seriously because medicine doesn’t know as much about their bodies and health problems. And medicine doesn’t know as much about their bodies and health problems because it doesn’t take their symptoms seriously (Dusenbery, 2018, p. 13).

That is, there is an epistemic lacuna, i.e., women are underrepresented as research subjects in the medical sciences, knowledge on e.g., women’s reactions to treatments and symptoms and incidence of diseases is often limited, and this means that healthcare providers tend to be unprepared to understand and solve women’s health issues.<sup>9</sup> Moreover, there is an issue in terms of trust: healthcare providers often do not trust women in medical encounters and as research subjects because they do not take them to be reliable epistemic agents, i.e., women are believed to be unable to be valuable interlocutors and accurately report on their health issues (e.g., Cleghorn, 2022; Hoffman & Tarzian, 2001; Hoffman et al., 2022). This, in turn, affects women’s trust in healthcare practitioners and willingness to interact with them, since they often report “acute awareness that doctors have the power to label them as ‘anxious’ or ‘depressed’ rather than address their physical pain or symptoms” (Merone et al., 2022, p. 58, see also Young et al., 2019 on endometriosis and the “hysteria discourse”).

A further example of how lay people interacting with scientific experts may experience issues in terms of respect concerns the communication strategies employed to address vaccine hesitancy. As the recent SARS-CoV-2 pandemic has shown, ensuring high vaccination uptakes against communicable infectious diseases is central to attain a number of benefits, both at the individual level (increasing personal immunity) and at the group level (attaining herd immunity) (Giubilini, 2019). However, vaccines have been a delicate topic since their introduction (Schwartz, 2012) and have raised concerns of various natures, such as questions regarding safety, side effects, appropriate number of injections, and the legitimacy of mandatory vaccinations (Goldenberg, 2021; Reich, 2016).

The World Health Organization has included vaccine hesitancy among the major threats to global health, together with issues such as HIV and air pollution (WHO, 2019). Vaccine hesitancy can be defined as an attitude of ambivalence regarding vaccines, which “runs along a spectrum from mild to severe uncertainty about whether

<sup>9</sup> The literature has extensively discussed the reasons for this lacuna (e.g., Greaves et al., 2023; Lippman, 2006). For instance, it has highlighted how one of the problematic assumptions underlying the exclusion of female subjects from clinical trials is that male subjects are representative of the species (Simon, 2005, p. 1517).

vaccines are safe, effective, and necessary” (Goldenberg, 2021, pp. 3–4).<sup>10</sup> Various accounts of vaccine hesitancy have been proposed. For instance, vaccine hesitancy has been explained as a product of privilege, or the result of the lay public’s scarce knowledge and familiarity with science (i.e., a deficit-model problem; see Goldenberg, 2021 for a discussion of these accounts).<sup>11</sup> While lack or limited knowledge may sometimes have a role, this is hardly the full story. Several lines of research suggest that distrust or low levels of trust in healthcare providers play a central role in determining levels of vaccine hesitancy, refusal, and acceptance (e.g., Brown et al., 2010; Goldenberg, 2021; Williamson & Glaab, 2018). For instance, Laura Williamson and Hannah Glaab report that “[t]o accept vaccines readily, people need confidence that, in the face of uncertainty and risk, professionals have their best interests at heart” (Williamson & Glaab, 2018, p. 2). That is, in order to decide whether to make oneself vulnerable to the possible risks involved in accepting a medical treatment, individuals need to know that healthcare providers are competent and benevolent and will not use their power to harm or take advantage of them.

Childhood vaccination is essential to protect children from health issues and can play an important role in ensuring sufficiently high vaccination rates. However, vaccine hesitancy among parents is an issue in many countries (Goldenberg, 2021). This may be due to a number of factors, which may vary across contexts. For instance, in a study focused on vaccine hesitancy among parents in the US, Jennifer Reich argues that the main issues are in terms of safety of vaccines and distrust in pharmaceutical industries, science, and institutions (Reich, 2016, p. 119). Given the distrust in science and suspicions about pharmaceutical industries’ interests in making vaccinations mandatory, parents often fear that they “are being asked to deliberately expose their children to [...] toxins” (Reich, 2016, p. 126).

The existing literature shows that parents are not always satisfied with medical encounters. Parents, and in particular new mothers, who are vaccine hesitators often report that they experience “silencing and shaming when they attempt to raise concerns about childhood vaccinations with their healthcare providers” (Goldenberg, 2021, p. 157). In a systematic review of the literature on factors that may have a role in determining parents’ decisions regarding vaccines, Brown and colleagues found that lower levels of satisfaction with interactions with healthcare providers was one of the common characteristics of vaccine-declining parents (Brown et al., 2010, p. 4245). In this study, they report that “feeling condescended to” and “unequal power relations prohibiting free discussion” were among the factors causing lower levels of satisfaction with encounters with healthcare providers (Brown et al., 2010, p. 4243). It has been argued that communication that tends to lead to parents’ dissatisfaction has as a starting

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<sup>10</sup> We rely on Goldenberg’s definition of vaccine hesitancy, but it should be noted that the literature offers multiple definitions. For instance, WHO defines vaccine hesitancy as “delay in acceptance or refusal of vaccination despite availability of vaccination services” (MacDonald, 2015, p. 4163), proposing then a definition that focuses on behaviours rather than on attitudes. While discussing the implications of different definitions of vaccine hesitancy is important to accurately analyse the phenomenon and to develop effective public health strategies, this is beyond the scope of this paper. Thanks to an anonymous referee for pushing us to clarify this point.

<sup>11</sup> We are here referring to accounts focused on under-vaccination due to parents’ decisions to not vaccinate their children, and not on under-vaccination due to practical barriers (e.g., limited access to healthcare facilities and financial resources).

point the belief that parents' hesitancy is due to their little familiarity or plain ignorance in science matters. This approach has been criticised as unable to appreciate all the factors that may shape parents' attitudes to vaccines and the role of trust in these dynamics (Leask et al., 2012, pp. 1–2).

Interestingly, Goldenberg argues that one of the factors that led many parents to trust Andrew Wakefield in the MMR vaccine—autism controversy was possibly that Wakefield listened to mothers (Goldenberg, 2021, p. 164; see also Navin, 2016, p. 37):

The community surrounding vaccine skepticism is inviting to women who want to be taken seriously; it is appealing to mothers who have had their vaccine questions and concerns shut down by their healthcare providers. This common experience leads many unsatisfied parents to search online and find alternative epistemic communities to learn from and create solidarity and resistance. Wakefield has been able to meet the needs of vaccine-hesitant parents in ways that conventional healthcare practitioners and the institutions they represent have unfortunately failed. (Goldenberg, 2021, pp. 158–159).

The dynamics of medical encounters between healthcare providers and parents may then often be influenced by gender-related power inequalities, where paediatricians may see women and mothers, who are often the primary caregivers, as unable to provide relevant information, think rationally, and control their emotions (Navin, 2016, p. 23). However, the need to be heard and taken seriously may play a central role in determining attitudes to and decisions regarding vaccinations, in particular in a population that has been silenced or ignored by healthcare experts in many occasions, e.g., women and mothers, who are often seen as the ones responsible for children's health and blamed for children's sickness (Reich, 2016, p. 18).

Deciding to get vaccines for one's own children (or for oneself) has been and still is an emotional issue (Healey & Pickering 2011, 128). Being vaccine hesitant does not necessarily lead to refusing vaccines. Behaviours resulting from vaccine hesitancy may vary, with some individuals who accept vaccination schedules and recommendations, whereas others withhold them in toto or follow alternative schedules (Goldenberg, 2021, p. 4). Quality of interactions between healthcare providers and parents may then play a central role in determining parents' attitudes towards vaccines (Leask et al., 2012). Making sure that communication between healthcare providers and parents creates safe spaces where parents can ask questions, provide information on their own experience with their children, and discuss their concerns is of pivotal importance to have encounters that may deliver epistemic and social benefits (e.g., attaining a better understanding of vaccines and/or the health status of a child and taking care of the child). For instance, in a study on vaccine hesitant parents, Laura Williamson and Hannah Glaab report that “when people feel listened to, understood and communicated with openly their trust in Healthcare professionals [...] is enhanced” (Williamson & Glaab, 2018, p. 2). In contrast, when a healthcare provider fails to “respectfully respond to a mother's worries about the necessity or safety of vaccination [...], he may also undermine the trust she is willing to place in his testimony about vaccines” (Navin, 2016, p. 30).



A long look at the literature on vaccine hesitancy among parents shows that communicating and interacting well may be central to promoting fruitful interactions between healthcare providers and parents who have to decide about vaccinations. Different communication strategies have been proposed and discussed. Two main communication strategies have been compared, i.e., presumptive language and conversational language:

Presumptive or announcement language uses phrases such as “The nurse will return with the vaccines due” or “We have to do some shots.” Conversational or participatory language uses phrases such as “What are you planning to do about the vaccines?” (Jacobson et al. 2020, p. 2132).

So, while the former can be understood as a one-way communication strategy, with the healthcare provider telling parents what is going to happen, the latter can be understood as a two-way communication strategy, in which healthcare providers and parents discuss and exchange opinions and information on what should be done.<sup>12</sup>

It has been argued that using a presumptive language tends to lead to higher vaccine acceptance compared to relying on a participatory style only (e.g., Opel et al., 2013; Hofstetter et al., 2017; Jacobson et al., 2020). However, the use of presumptive language has also been criticised:

[T]he use of presumptive tone, although potentially efficient when adopted with families who are already planning to vaccinate, can be seen as manipulative and paternalistic, especially by parents who are vaccine hesitant. (Make & Lauver, 2022, p. 2).

Using a presumptive language, some argue, would somehow force parents into accepting vaccinations, nudging them into a decision that they would have not taken or that they need to ponder in order to feel comfortable, and this would conflict with protecting patients’ autonomy (Williamon & Glaab, 2018, p. 4)<sup>13</sup> Moreover, mixed results on the ability of the presumptive strategy to lead to higher vaccine acceptance exist. For instance, in a study comparing the use of different communication strategies in the interaction with vaccine hesitant parents, Make and Lauver found that healthcare providers’ use of presumptive language can undermine trusting relationships between healthcare providers and parents and lower vaccine uptake (Make & Lauver, 2022).

This section has introduced some case studies that show how the interaction and collaboration between medical experts and patients do not always go smoothly. The

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<sup>12</sup> Adopting a presumptive language does not necessarily exclude using a conversational communication style in toto. An encounter between healthcare providers and parents can be divided in two main stages: in the first one the need for vaccinations is introduced, in the second one questions regarding the treatments are discussed (McGee & Suh, 2019). While in the first stage, healthcare providers may use a presumptive language, in the second stage they may switch to a conversational one. For instance, it has been suggested that “if the parent has questions or concerns about the proposed immunization after the presumptive style is initially used, then the discussion moves into the second stage and switching communication styles becomes important. If the parent expresses concern or has questions about vaccination, it is imperative for providers to address those in an honest, straightforward manner” (McGee & Suh, 2019, p. 3).

<sup>13</sup> It is beyond the scope of this paper to discuss the legitimacy of using nudges in the medical context. For a discussion, see e.g., Ploug & Holm, 2015; Blumenthal-Barby & Naik, 2015; Engelen, 2019).

next section will analyse these case studies through the lenses of recognition respect and appraisal respect.

## 5 What type of respect should be cultivated?

Having explored cases in which experts are engaging with the publics in healthcare settings and the issues arising in these settings, we are now in a position to examine the role of respect in interactions between scientific experts and the publics in more detail.<sup>14</sup> Our overarching claim that we will argue for here is that understanding the complexity of respect dynamics may help to act appropriately in scientific experts—lay people interactions. More specifically, we will argue that lay publics are entitled to recognition respect both in virtue of their personhood and for particular roles they occupy like the role of a patient. Additionally, we will argue that this recognition should involve the recognition of their status as epistemic agents whose epistemic rights should be respected and who are capable of making useful contributions to knowledge production.

The first point to note relates to the observation that experts are often sceptical of publics' involvement in decision-making because lay people may hold strong viewpoints that are not supported by good evidence. As we have seen, studies reveal that this attitude is widespread amongst scientific researchers and characterises many interactions between clinicians and patients. This sceptical attitude can be seen as a lack of *appraisal respect*, as the experts fail to appreciate the epistemic and moral capabilities of the publics. As we have seen from the examples of women with endometriosis, this lack of appraisal respect can be often unjustified, have a negative impact on the trust that women have for healthcare providers, and can also lead clinicians to overlook important information that is needed to correctly diagnose patients' medical conditions. A general lack of appraisal respect for the publics, then, has a negative impact on the relationship between experts and non-experts, undermining epistemic trust which can lead to important sources of knowledge from non-expert testimony being ignored, and have negative material consequences for those being disrespected. Moreover, a further point that shows the importance of appraisal respect in the scientific experts—lay people interactions concerns its role in fostering (or not obstructing) self-respect. Being treated disrespectfully as a source of knowledge by medical professionals may lead patients to question their own epistemic capacities. We see this clearly in the case of endometriosis patients who started to question their own sanity after being treated disrespectfully by healthcare professionals. In this way, a lack of respect from others can lead to a lack of self-respect as well.

This may suggest that experts should engage in more appraisal respect for the public's epistemic capacities. However, there are also cases where scientific researchers and clinicians have good reason to think that public opinions about a particular issue are not epistemically justified. For instance, sometimes parents mistakenly think they

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<sup>14</sup> While we take our analysis of the case studies to point towards general issues that will arise in interactions between scientists and lay publics, it is also worth noting that specific contexts (e.g., different types of public engagement activities or the specific scientific challenge being addressed) may create particular challenges for respect, so these general considerations must be accompanied by a careful consideration of the context.

do have important pieces of information that need to be considered when discussing vaccinations, based on the assumption that they have some sort of “parental expertise”, i.e., they are epistemically privileged as their role as parents provide them with a “special intuition” that makes them able to understand their children’s health better than anyone else (Reich, 2016, p. 19). However, parents will not always enjoy such an epistemically privileged position (Reich, 2016). Moreover, vaccine scepticism may be based on misinformation. When confronted with such opinions, scientists may feel that a negative appraisal of the person’s epistemic capacities is justified. It is important, though, to distinguish the appraisal of an opinion someone holds and an appraisal of their epistemic capacities more generally. The fact that someone may have reached a conclusion that lacks justification with regards to vaccines, does not by itself show that they lack any epistemic capabilities. They may have made a misjudgement in this case but generally be good at forming beliefs that fit the evidence. They may find themselves in a polluted epistemic environment in which forming justified beliefs is difficult, even for virtuous epistemic agents (Ryan, 2018; Levy, 2021 Ch. 5). They may also have good reasons not to trust scientists, based on some previous negative experiences in which scientists have failed to treat them with respect, as Furman has suggested in the case of HIV and South African citizens (Furman, 2020). Experts should be careful then about dismissing someone as worthy of appraisal respect on the basis of one opinion that person holds, as this may also have the consequences of limiting or impeding interactions with a valuable interlocutor. Nevertheless, despite these caveats, there may well be interactions where members of the public do not merit appraisal respect.

However, as the philosophical literature on respect makes clear, the fact that in a specific circumstance someone does not merit appraisal respect does not mean that they are unworthy of respect altogether. As mentioned in Section 2, to have *recognition respect* for someone as a person involves recognising their personhood and taking this into account appropriately when deciding how to act. Recognition respect for someone’s personhood is something that all people are entitled to and so should always be present in the interactions between scientific communities and lay communities. Examples such as women’s experiences with labour and birth show that healthcare providers sometimes fail to see patients as human beings or to fully appreciate this fact. One issue here relates to autonomy, not taking a patient’s autonomy seriously shows a lack of respect for their personhood, such as when women are not being consulted by healthcare providers about performing interventions or have their refusal or request to stop an intervention ignored. Another issue with recognition respect relates to dignity, when patients feel they are treated “like a piece of meat” and not like human beings with relevant features that need to be honoured and rights that should not be violated.

Having recognition respect for lay people may also involve paying attention to a particularly relevant group of rights that human beings have *qua* human beings, i.e., epistemic rights. An epistemic right is a right concerning epistemic goods such as information, truth, wisdom, and knowledge (Watson, 2021, viii). To possess an epistemic right is to be entitled to mandate actions and omissions in relation to epistemic goods (Watson, 2021, Ch.1). If recognition respect concerns recognising someone’s

personhood, this type of respect will involve respecting the epistemic rights that people possess in virtue of their personhood. For example, a person may be entitled not to be lied to by others in virtue of her epistemic rights.

As well as possessing epistemic rights in virtue of being a person, there are also distinctive epistemic rights that people have in virtue of certain roles they occupy (Darwall, 1977, p. 38). For example, being a patient may entitle someone to information about the effectiveness of certain drugs that their doctor recommends to them, as well as the right to know about any side effects they may cause. The withholding of such information and the refusal to take patients' questions seriously constitute a violation of a patient's epistemic rights (Watson, 2021, p. 50). In this case, recognition respect involves respecting someone in relation to a particular role that they occupy and respecting the particular rights that one possesses in virtue of occupying that role. The dismissal of questions asked by pregnant mothers during labour about how the labour is progressing can be seen as a violation of this right.

The same may apply to vaccine hesitant parents who report feeling dismissed and silenced when raising concerns about vaccinations with healthcare providers (Goldenberg, 2021, p. 157). Studies highlight that parents sometimes feel like they are not being listened to or taken seriously by medical professionals and are instead being treated with condescension and contempt. This suggests that parents felt they were not being properly respected in their role as the people who would be making the decision about the vaccination and were instead being treated as an obstacle to be overcome. Rather than being taken seriously as bearers of epistemic rights and as epistemic agents who must decide how to weigh up the evidence, these parents were instead treated as people who should be bullied or pressured into accepting the vaccination of their children.

The importance of recognition respect also helps to illuminate the difference between presumptive and participatory language. Opel and colleagues have recently argued that presumptive language and participatory language may be leading to different desirable outcomes:

Using presumptive formats that assume vaccination seems to increase acceptance but decrease visit experience, whereas using participatory formats that provide parents more decision-making latitude appears to do the opposite. (Opel et al., 2015, p. 2001).

While the presumptive communication style worked well to increase vaccine uptake, using a participatory communication style led to higher levels of parents' satisfaction with medical encounters (e.g., satisfaction with care received, support, willingness to listen and answer questions, competence, courtesy, and respect; Opel et al., 2015, p. 1999), which may play a central role in building trusting relationships between parents and healthcare providers (Opel et al., 2015, p. 2001). Both increasing vaccine acceptance and improving visit experience are important. A point that needs to be discussed in order to understand which communication strategies may be legitimate in this context concerns the aims of encounters and the long-term consequences of adopting certain communication styles. Presumptive communicative strategies may raise vaccine acceptance, but they may be not ideal if the medical encounter's aim is not only to raise vaccine uptake, but also to create and maintain trust and fruitful

relationships that may lead to epistemic and social desiderata (e.g., attainment of knowledge and vaccinations). Key here is in fostering a communicative context in which patients and parents are taken seriously as epistemic agents.

While presumptive language may increase the chances of patients making the decision that medical professionals judge to be best, there is a risk of the patient interpreting such language as signalling a lack of respect for their epistemic agency. This perceived lack of respect may make it less likely that parents will trust healthcare professionals. Attempts by experts to pressure the publics into accepting a particular decision, then, may backfire by making the publics distrust the expert and motivating them to seek out alternative spaces where they do feel listened to and respected. As Reich (2016) pointed out, this is particularly likely to be the case when amongst groups with a history of being treated with disrespect by scientific experts. In fact, as Naomi Scheman (2011, p. 230) has argued, it is irrational to expect people to trust scientific experts if those experts routinely disrespect them and fail to treat them as equals.

Alessandra Tanesini's (2018) work on arrogance in public debates is a useful guide to the kind of behaviour that needs to be avoided here. As Tanesini argues, arrogant speakers and audiences disrespect their interlocutors by violating norms of respectful communication (2018, 29). The norms being violated may include the norm to answer legitimate questions, the norm not to interrupt people when they are talking and the norm to only make assertions for which you have the appropriate epistemic standing to make. When a speaker or listener violates these norms they often signal a sense of epistemic superiority, i.e., that they are a superior epistemic agent to their interlocutor and so do not need to be bound by norms of respectful communication. Healthcare professionals may indeed have relevant expertise that patients do not have. However, this expertise does not entitle one to ignore norms such as addressing the questions posed by a speaker. When healthcare professionals interact with lay publics, then, it is important that they follow these norms of respectful communication in order to avoid expressing disrespect for their interlocutors.<sup>15</sup>

A further point to be noticed is how recognition respect and appraisal respect may be intertwined. Epistemic recognition respect, i.e., recognising an agent as a bearer of epistemic rights, may be an important precondition for epistemic appraisal respect, i.e., acknowledging the ability to provide relevant information. In order to appraise someone's epistemic capacities fairly, one must first recognise them as an epistemic agent. This means that when experts lack epistemic recognition respect for lay publics this is likely to also act as a barrier to appraisal respect. As a result, experts will close themselves off to important sources of information and insight that lay publics may be able to offer. This point is particularly pertinent when we consider specific groups within the lay public that are especially likely to be disrespected by scientific experts. For example, if healthcare practitioners are less likely to recognise women as epistemic agents then this will be a significant barrier to making a fair assessment of the credibility of their testimony. The disregard of women's testimony concerning endometriosis highlights this issue well. Here, the failure to properly recognise women as epistemic agents is a violation of recognition respect but also leads to a failure to recognise their

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<sup>15</sup> Various epistemic virtues and vices may play an important role in facilitating or obstructing interactions between scientific experts and lay publics. See for instance Navin (2016) on the epistemic virtues and vices that vaccine hesitant communities may exhibit.

epistemic contributions and so leads to a lack of appraisal respect as well. Epistemic recognition respect, then, is not only important for its own sake but is also instrumentally valuable as it may enable fair assessments of the epistemic appraisal respect that people are due and scientific access to new sources of information.

Moreover, even where members of the public possess no special epistemic virtues that would make them worthy of appraisal respect, they may still possess insights that are unavailable to many experts. As Naomi Scheman has argued, in order for doctors to meet the needs of patients, doctors need to attend to “the actual needs of patients, needs that may well not correspond to discrete disease categories or respond to specifically targeted therapies” (Scheman, 2014, p. 182). This means listening carefully to how patients describe their experiences without trying to immediately fit these accounts into their preexisting diagnostic categories. More generally, Scheman argues that scientific researchers too often end up investigating researchable problems that fit their existing methods and frameworks that bear little resemblance to the problems faced by the people they are trying to help (Scheman, 2014, p. 181). In order to remedy this problem, researchers need to pay careful attention to “the webs of relationship that make them [the objects of inquiry] what they are” which involves recognizing the value of the knowledge possessed by non-experts (Scheman, 2014, p. 182). These non-experts need not be especially virtuous epistemic agents to possess knowledge of the problems facing their community that the experts do not. If the experts do not have recognition respect for these non-experts’ status as epistemic agents, then this knowledge is likely to be lost. Even when people do not deserve special appraisal respect for their epistemic abilities, failing to accord them recognition respect as epistemic agents may have a damaging impact on the medical or scientific process and undermine both the epistemic and practical value of the research. This means that doctors and other scientific experts need to recognise that patients and other lay publics can make important epistemic contributions even when they are not deserving of especially high levels of epistemic appraisal respect.

The analysis of the role of respect in the relationships between healthcare professionals and the lay publics outlined in this section provides a number of general insights for scientific experts engaged in public outreach. First, the fact that some member of the public holds a view that is not well-supported by the evidence does not mean that they are generally unworthy of appraisal respect. Second, even when a member of the lay public is not worthy of appraisal respect in a specific interaction, they will still be due recognition respect for their personhood. Third, this form of respect involves recognising their status as an epistemic agent and the epistemic rights that go with this. Fourth, as well as recognition respect as a person, members of the publics are also due recognition respect for particular roles that they instantiate such as the role of a parent, patient, customer or resident. Respecting these roles means respecting the particular rights that come with these roles, such as the right that patients have to information about the effects of the treatment they are being offered. Fifth, both recognition and appraisal respect may be important not only for their own sake but also for fostering trust for scientific experts amongst the publics. Attempts to pressure or manipulate the publics into accepting a particular view may be perceived as disrespectful and so undermine public trust in scientific experts. Sixth, it is crucial that when scientific experts engage in public engagement activities, that they do not violate norms for

respectful public discourse. In violating these norms, scientific experts show that they view lay publics as not deserving to be treated as valuable interlocutors. Finally, epistemic recognition respect is an important precondition for epistemic appraisal respect. This means that scientists who fail to take seriously the epistemic agency of members of the lay public may be missing out on important sources of information and insight. In general, we can conclude that scientific experts participating in public engagement need to understand the complexity of respect in order to act appropriately in these interactions.

## 6 Conclusion

To sum up, we have investigated the importance of respect in interactions between scientists and lay communities. We began by explaining cooperative approaches to interactions between scientific experts and lay people and how these differ from the Deficit Model. A key feature of cooperative approaches is that citizens are understood as valuable interlocutors (e.g., bearing relevant pieces of information) and entitled to play an active role in scientific decisions, especially when these will have a major impact on their lives. Given this active role for citizens in scientific decisions it is important to investigate how scientific experts should approach the publics when engaging with them by focusing on the medical context. We have argued that respect has a crucial role to play here, as it can help to facilitate the creation and development of trust in science.

We then examined what kind of respect is important in these interactions through examining case studies from the medical literature on the interactions between scientific experts and lay people. Based on these case studies, we have argued that scientific experts engaging with lay people or participating in public engagement need to understand the complexity of respect in order to act appropriately in these interactions. Members of the lay public are entitled to recognition respect simply in virtue of their personhood and also for the particular roles they instantiate (e.g., the role of patient). This recognition respect should contain (amongst other things) a recognition of their status as an epistemic agent and the epistemic rights that go with this, such as the right to information (e.g., having one's questions to be addressed) and the right not to be lied to. This recognition respect is not only something the publics are entitled to, it is also likely to be instrumentally valuable in fostering trust for scientific expertise amongst the public. This makes it crucially important that scientists do not violate norms for respectful discourse when engaging with lay people. In addition to recognition respect, scientists should also appreciate that members of the publics will also often be worthy of appraisal respect. Failures to appreciate this may lead scientists to miss out on crucial sources of testimonial knowledge which members of the lay publics can offer. In general then, we can conclude that understanding the complexity of respect dynamics, e.g., the different types of respect that may be relevant and what these imply, may help to act appropriately in the experts-non-experts interactions and make these interactions epistemically and socially fruitful.

Our analysis raises several important issues. First, if it is important that scientists understand the complexity of respect then efforts should be made to train scientists

about these complexities. How best to do this is an important issue for the scientific community to consider. In the survey exploring researchers' thoughts regarding the Responsible Research and Innovation approach, Carrier and Gartzlaff highlight that one of the concerns reported by researchers was the lack of training when it comes to public engagement activities (Carrier & Gartzlaff, 2020, p. 156). Carrier and Gartzlaff argue that it is of pivotal importance that scientific experts who engage with lay publics have the opportunity to develop some engagement literacy (Carrier & Gartzlaff, 2020, p. 164). We suggest that integrating training on the notion and dynamics of respect would benefit scientific experts and lay publics as well. We have no definite guidelines to suggest here, but being aware that respect may involve different types of attitude and focusing on different aspects, may help healthcare providers as well as sponsors, researchers, and institutions to plan, design, implement public engagement activities that perform better and can deliver the envisaged epistemic and social desiderata. Given the importance of the publics following scientific advice on crucial issues such as vaccinations and climate change, it is crucial to ensure that these interactions are respectful and help to facilitate public trust in science.

Second, we have focused our discussion on the respect that scientists should have for the lay public. But these are two-way interactions and so the respect should also go both ways. Future research, then, should examine the importance and complexity of respect and disrespect that members of the lay public have towards scientific experts. This is particularly important, as recent literature highlights that scientific experts sometimes have to deal with some undesirable consequences of public engagement activities, such as personal threats (Ivani & Dutilh Novaes, 2022). An important further issue is how either party in this relationship should respond when they are disrespected by the other. Should scientists still show respect for members of the lay public who openly disrespect them? If so, then does this change the nature of the respect that is due here? This paper highlights how the way we engage with each other in science matters, and pinpoints that, whether we will be able to tackle societal challenges, e.g., pandemics, climate crises, and the disruptive impact that technologies such as AI may have on society, may also depend on whether we will be able to create and promote interactions and practices that attend to the different facets of respect. While previous studies have paid little attention to the importance of respect in fostering fruitful interactions between scientific communities and lay communities, we hope that future research will explore these and other important questions raised by our analysis.

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