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Shared decision-making and argumentation

A pragma-dialectical perspective on medical consultations as discussion situations

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Shared decision-making has become the ideal for medical decision-making. Given the pivotal role of argumentation within this process, shared decision-making has increasingly been examined through the lens of argumentation theory, particularly pragma-dialectics. This perspective paper outlines the pragma-dialectical contributions to the analysis of shared decision-making and explores the potential of this theory for addressing current and future challenges in medical decision-making. It aims to show that normative argumentation approaches, particularly the pragma-dialectical approach, are crucial for understanding and possibly improving shared decision-making. First, the paper discusses the alignment between shared decision-making and the ideal of a critical discussion, barriers to shared decision-making as violations of discussion rules and higher-order conditions, and the application of the pragma-dialectical approach to complex decision-making scenarios involving patient companions. Second, it considers how the pragma-dialectical approach may be used to confront the emerging issues of medical misinformation and artificial intelligence in medical decision-making.

Keywords: shared decision-making, pragma-dialectics, medical argumentation

1. Introduction

Shared decision-making is nowadays seen as the ideal for reaching medical decisions (Stiggelbout et al. 2015). Rather than paternalistically assuming the doctor knows best, shared decision-making requires health professionals and patients to discuss the available medical options, weigh their pros and cons, and together

come to a medical decision. Argumentation hence plays an important role in this decision-making process: weighing pros and cons amounts to a deliberation process in which arguments in favour or against a particular decision are scrutinised.

Because of the importance of argumentation for shared decision-making, this decision-making process has been studied by argumentation theorists, notably from the perspective of the pragma-dialectical argumentation theory (see Labrie 2012, 2013, 2014; Snoeck Henkemans and Wagemans 2019). Pragma-dialectics proposes an ideal model of a critical discussion, in which discussion parties aim to reasonably resolve a difference of opinion (Van Eemeren and Grootendorst 1992, 2004). The model of a critical discussion is not only compatible with shared decision-making but also provides insights into obstacles to this type of decision-making (Pilgram and Snoeck Henkemans 2018; Snoeck Henkemans and Mohammed 2012; Zanini and Rubinelli 2012), especially due to its normative approach to argumentation. Additionally, the pragma-dialectical theory offers tools to systematically analyse shared decision-making in complex discussion situations (Pilgram and Van Poppel 2021; Van Poppel and Pilgram 2025).

Given the variety of pragma-dialectical contributions to study of shared decision-making, it might be timely to provide an overview of how the pragma-dialectical approach has contributed to the study of shared decision-making so far and to what extent this approach can be used to address open or new challenge to this decision-making process. In this perspective paper, I will aim to do this by first discussing extant pragma-dialectical studies on shared decision-making and highlighting their implications for this decision-making process (Section 2). And second, by arguing that challenges for shared decision-making, such as those posed by misinformed patients, might be studied from a pragma-dialectical perspective (Section 3). In closing, I will summarise the key points and discuss some limitations of the pragma-dialectical approach to medical decision-making (Section 4).

The focus in this paper will be on the pragma-dialectical theory because of the limited application of other argumentative approaches to shared decision-making. Also, ultimately, I intend to show that normative approaches to argumentation such as pragma-dialectics are pivotal for comprehending and possibly tackling challenges posed to shared decision-making.

2. Applying pragma-dialectics to shared decision-making

In the following sections, I will provide an overview of the extant pragma-dialectical literature on shared decision-making, focussing on the question how

the pragma-dialectical approach contributed to the study of shared decision-making so far. To answer this question, a preliminary question will first be addressed, namely whether the notion of shared decision-making is compatible with the pragma-dialectical ideal of a critical discussion (Section 2.1). Subsequently, two applications of the pragma-dialectical approach to shared decision-making will be highlighted: its application to obstacles to shared decision-making (Section 2.2) and to decision-making situations in which more than two parties are involved (Section 2.3).

2.1 Shared decision-making's compatibility with a critical discussion

Elwyn et al. (2010: 971) define shared decision-making as “an approach where clinicians and patients share the best available evidence when faced with the task of making decisions, and where patients are supported to consider options, to achieve informed preferences”. The emphasis on sharing the best available evidence not only shows that shared decision-making is fundamentally argumentative (evidence functions as argumentation in the decision-making process when patients and health professionals do not immediately agree on what the health problem is or how to deal with it), but also that shared decision-making is normative (not any evidence will do, but only “the best available evidence,” and “informed preferences” should be achieved). What is the best available evidence is not just a clinical matter: it is the clinical evidence that is the best *given the preferences and circumstances of the patient*. If a treatment is proven effective but has many side effects, it is up to the patient to decide whether its effectiveness outweighs its side effects.

Snoeck Henkemans and Mohammed (2012) argue that the normative nature of shared decision-making requires the patient and health professional to contribute to the decision-making process in a reasonable manner: the proposals they make and any questions or reservations they express are ultimately aimed at determining the acceptability of a particular medical decision. They point out that this corresponds with the pragma-dialectical ideal model of a critical discussion, in which discussion rules are specified for reasonably resolving a difference of opinion (see Van Eemeren and Grootendorst 1992). The discussion rules can thus also be applied to shared decision-making (see Pilgram and Snoeck Henkemans 2018; Snoeck Henkemans and Mohammed 2012).

Snoeck Henkemans and Wagemans (2019) observe that the difference of opinion that patients and health professionals have in shared decision-making typically concerns treatment decisions.¹ This difference of opinion could be

1. Although shared decision-making could also be used for other medical decisions, varying from whether to conduct another blood test to whether to switch to e-consultations.

explicit (“I don’t think that taking a paracetamol will help”) or implicit (e.g., a patient’s lack of explicit agreement with the treatment). In this sense, the ideals of shared decision-making and a critical discussion are somewhat distinct; the model of a critical discussion allows discussion parties to adopt any type of standpoint on any kind of issue, and the difference of opinion should be externalised. Yet, this does not mean that shared decision-making is incompatible with a critical discussion: both focus on how to resolve a difference of opinion in similar manners, but the ideal of shared decision-making is specified for the institutionalised medical context.

Indeed, a striking similarity between the ideals of shared decision-making and a critical discussion is the role reserved in these models for common ground. For shared decision-making, it is vital that there be sufficient common ground between the patient and health professional on the medically available (treatment) options and the risks and benefits of these options: if a patient does not really understand the available options but chooses one anyway, the decision cannot be truly shared. Additionally, both parties should recognise the importance of the patient’s preferences and establish what these preferences are: if a health professional does not really understand a patient’s concerns about a treatment option, the doctor cannot fully participate in the shared decision-making process. In a critical discussion, the opening stage also requires discussion parties to determine which starting points they share (Van Eemeren and Grootendorst 1992). If discussion parties do not share enough starting points, the reasonable resolution of a difference of opinion might be frustrated or even hindered. The same holds for shared decision-making: if the patient and health professional do not have enough relevant common ground, reaching a shared decision might also be frustrated or hindered.

It should be noted that, in shared decision-making, establishing common ground incurs specific institutional requirements on the health professional that do not have a direct counterpart in the ideal model of a critical discussion (Snoeck Henkemans and Wagemans 2019). Because of the characteristic asymmetry in medical knowledge and expertise between the patient and health professional, Snoeck Henkemans and Mohammed (2012) point out that this asymmetry incurs an institutional burden of proof on the health professional: the professional must discuss all the medical options with the patient, even if the patient does not explicitly question or disagree with these options. Indeed, Bigi (2018) shows how health professionals could use argumentative strategies to establish common ground and

reduce knowledge disparities with patients² and Labrie (2013) analyses how health professionals manoeuvre strategically to establish favourable common ground.

Additionally, health professionals must clarify the relevant considerations and preferences of the patient that help to decide which option to choose (Stiggelbout et al. 2015). There are no such extra requirements for discussion parties in a critical discussion. The ideal of shared decision-making is thus more specific with respect to the obligations of the involved parties than the critical discussion model. Yet, this does not fundamentally undermine the way in which common ground functions in both ideals: parties should still establish relevant common ground and only argue from this common ground to reach their conclusions in both ideals.

A potentially more fundamental difference between the ideal of shared decision-making and the critical discussion model is the patient's final power to decide. Because it is the institutional requirement of the health professional to propose medical options and present the pros and cons of these options in shared decision-making, the patient decides, in the end, for which option to go. In principle, the professional should offer all available, clinically approved options.³ Once the professional presents the options to the patient, it is the patient who, in the end, decides which option to choose. In this sense, the power to decide resides with the patient. This is distinct from the ideal model of a critical discussion, in which both the discussion parties can equally offer, reject or present doubt about proposals – or, more generally: advance, oppose, or question standpoints. So, a patient could find the arguments that a health professional gives in support of a particular treatment decision completely convincing, but still refuse this decision (e.g., out of fear). From the ideal of a critical discussion, this would amount to the fallacy of refusing to retract criticism of a standpoint that has been successfully defended, yet it is perfectly possible to have this situation within shared decision-making. In this respect, the ideals of shared decision-making and the pragma-dialectical theory are fundamentally different, which argumentation theorists that want to study medical decision-making from a pragma-dialectical perspective should keep in mind.

2. Please note that Bigi (2018) focusses on patient-centred care rather than shared decision-making, and that she does not use the pragma-dialectical theory in doing so. Thus, her focus is somewhat different from the one in this paper: it is less on the decision-making process and, as such, less on the normative aspects of this process.

3. However, it should be noted that health professionals could select the options that they present to the patient, for instance, if not all options are covered by health insurance or offered at a nearby hospital.

A last remark is that the shared decision-making process might seem distinct from what we generally think of when talking about discussions (i.e., discussions between competing and adversarial parties). After all, at the beginning of medical decision-making, a patient and health professional might not have any firm or competing standpoints on how to deal with the health problem at hand and they typically collaboratively come to their decision. This is indeed different from the initial situations in political or legal discussions. However, this does not mean that the decision-making process cannot be reconstructed as a discussion from the pragma-dialectical point of view: as long as patients and health professionals do not immediately agree on every aspect of the decision-making process with each other, the weighing of pros and cons that shared decision-making requires can be reconstructed as arguments in support of the eventual decision. As such, this is not fundamentally different from the ideal of a critical discussion.

In sum, as Snoeck Henkemans and Mohammed (2012:29) conclude: “the institutional goal of shared decision making, namely to try to establish the best possible treatment option based on medical evidence and suited to the goals, values and preferences of the patient, is compatible with the aim of a critical discussion to critically test the points of view concerning the different available treatment options”. This also means that the pragma-dialectical critical discussion model could help in analysing obstacles to shared decision-making. In fact, I would argue that it is crucial for understanding problems in the shared decision-making process to take a normative approach, such as in pragma-dialectics. After all, the argumentative nature of the shared decision-making process means that problems with this process eventually come down to discussion problems, and normative approaches to argumentation are designed to identify such problems (e.g., as fallacies). I will discuss this more extensively in the following section.

2.2 Obstacles to shared decision-making as rule violations

In actual medical practice, patients and health professionals are not always or completely reasonable in the decision-making process (see Engelhardt et al. 2016, 2018; Karnieli-Miller and Eisikovits 2009; Ziebland et al. 2014). A health professional can, consciously or unconsciously, try to steer a patient to a decision that the professional prefers, for example, by restricting the patient’s room to ask questions or using the pronoun “we” when proposing a treatment. Such steering could form an obstacle to shared decision-making.

Because of the compatibility of shared decision-making and the model of a critical discussion, both Zanini and Rubinelli (2012) and Pilgram and Snoeck Henkemans (2018) use the pragma-dialectical theory to systematically analyse challenges to shared decision-making. Zanini and Rubinelli (2012), for example,

show that the pragma-dialectical approach helps to identify five main challenges to this decision-making process. The first is that the health professional should be willing to engage in a discussion and not be too paternalistic. The second challenge follows from the first, as the professional should also be willing to give up a standpoint if challenged by the patient. The third challenge deals with the difference between the ideal of shared decision-making and this process in reality: a health professional might also have what Zanini and Rubinelli (2012: 167) call “rhetorical” goals, that is, they might have personal, institutional or even marketing reasons for influencing the decision-making process. The fourth challenge is a counterpart of the first, namely that also patients should be willing to engage in a discussion during medical consultation. The final challenge that Zanini and Rubinelli (2012) identify is the time constraint for conducting a full-fledged discussion during medical consultation.

The challenges that Zanini and Rubinelli (2012) mention are indeed crucial to address in shared decision-making, but they do not all challenge the decision-making process in the same way. The fifth challenge of limited discussion time, for instance, is a practical, external one, while the first and fourth challenge deal with the roles that health professionals and patients see for themselves. Pilgram and Snoeck Henkemans (2018) further specify the differences between these challenges by using the pragma-dialectical distinction between the discussion rules (‘first order conditions’) and other prerequisites for a reasonable discussion (‘higher order conditions’), such as that the parties should have enough time for deliberation. More specifically, the sufficient time requirement is a so-called ‘third order condition’: an external requirement that should be met for the discussion parties to reasonably resolve a difference of opinion (van Eemeren and Grootendorst 2004). Other third order conditions arise from, for example, the medium or mode through which a discussion takes place (e.g., an e-consultation might offer limited opportunity for physical examination, which might impact the health professional’s argumentation to support a diagnosis). The other higher-order conditions are: the parties should have the right attitudes, skills, and competencies to participate in the discussion (‘second order conditions’) and the general conditions for communication (‘fourth order conditions’) (van Eemeren and Grootendorst 2004). For example, second order conditions might not be completely fulfilled in shared decision-making with low health literate patients and fourth-order conditions are not fulfilled when a patient is unconscious.

For shared decision-making, limited consultation time is an often-mentioned obstacle to shared decision-making, just as the asymmetry in medical knowledge and expertise is (see Pieterse, Stiggelbout and Montori 2019; Landmark, Gulbrandsen and Svennig 2015). From a pragma-dialectical point of view, these obstacles can be regarded as a non-fulfilment of respectively the third and second

order conditions, as they are prerequisites for being able to successfully take part in shared decision-making. Consequently, these obstacles cannot be overcome by changing the content of the shared decision-making process itself, but only by adapting the circumstances under which this process takes place (e.g., by extending consultation time or using decision aids for parts of the shared decision-making process).

Obstacles that arise *during* shared decision-making, such as Zanini and Rubinelli's (2012) first, second and fourth challenge, should be tackled differently. Pilgram and Snoeck Henkemans (2018) argue that these obstacles can be overcome by increasing health professionals' awareness of the critical discussion rules. The reason for this is that the obstacles that arise during shared decision-making itself all amount to violations of these discussion rules. To come back to the examples mentioned earlier: restricting the patient's freedom to ask questions can be regarded as a violation of the pragma-dialectical *freedom rule* ("Discussants must not prevent each other from advancing standpoints or from calling standpoints into question" (Van Eemeren and Grootendorst 2004: 190)), since it limits the patient's possibility to question a given proposal. Using the pronoun "we" when proposing a treatment is a bit more complex: similar to restricting the patient's freedom to ask questions, a health professional's use of "we" can limit the patient's freedom to criticise a given proposal, but, given that the professional suggests the proposal is made by several health professionals, it can also be used to evade the burden of proof as well as be regarded as fallacious use of authority argumentation (Pilgram and Snoeck Henkemans 2018). In terms of critical discussion rules, a health professional's use of "we" thus violates not only the *freedom rule*, but also the *burden of proof rule* ("Discussants who advance a standpoint may not refuse to defend this standpoint when requested to do so" (Van Eemeren and Grootendorst 2004: 191)) and the *argument scheme rule* ("Standpoints may not be regarded as conclusively defended by argumentation that is not presented as based on formally conclusive reasoning if the defence does not take place by means of appropriate argument schemes that are applied correctly" (Van Eemeren and Grootendorst 2004: 194)).

So, the pragma-dialectical discussion rules and higher-order conditions can well be used to systematically identify challenges to shared decision-making and to point to the direction in which these challenges could be overcome. Pragma-dialectics cannot only help the evaluation of shared decision-making but also the analysis of this decision-making process in complex medical interactions. I should point out that this might very well also be the case for other normative approaches to argumentation – albeit that I do believe that the use of pragmatic insights in the pragma-dialectical approach and its systematicity are particularly useful for analysing shared decision-making.

2.3 A pragma-dialectical analysis of complex shared decision-making

Thus far, the focus in (pragma-dialectical and other) studies on shared decision-making has been on medical consultations between two parties: the patient and the health professional. Yet, patients often bring along companions, such as partners, family members or friends (see Laidsaar-Powell et al. 2013; Pel-Littel 2019). Patient companions can make the decision-making process more complex, as they are not always passive observers, but may also participate in the process. Indeed, Adelman, Greene and Charon (1987) recognise that companions can take upon themselves the roles of ‘advocates’ and ‘antagonists’: the former act as spokespersons for the patient, while the latter undermine the patient in the decision-making process or even hijack this process.

Companions can affect the decision-making process also in more subtle ways: they could add an argument without completely taking over or countering the patient’s position, or they could ask questions if they are unsure about a medical option. Van Poppel and Pilgram (2025) argue that the presence of a companion can result in twelve distinct discussion situations in which these third parties take distinct roles upon themselves. The simplest discussion situation is one in which the health professional proposes, while the patient and companion are (assumed to be) in doubt; this discussion situation is much like dyadic decision-making in the sense that only the health professional must fulfil their burden of proof. More complex discussion situations arise when, for instance, each participant – including the companion – takes upon themselves a different position in the decision-making process or when participants team up and present their arguments in coalition.

To systematically analyse these discussion situations, notions of ‘disagreement type’ and ‘discussion role’ can be used (Van Poppel and Pilgram 2025). The disagreement type refers to the pragma-dialectical type difference of opinion that the parties have: if they adopt opposing standpoints, their disagreement is ‘mixed’; if one party adopts a standpoint and the other doubts this standpoint, their disagreement is ‘non-mixed’ (Van Eemeren and Grootendorst 1992). According to the pragma-dialectical theory, discussion parties can then take upon themselves the role of protagonist or (doubting or opposing) antagonist in these disagreements (Van Eemeren and Grootendorst 1992).

The disagreement type and discussion role can explain the difference between the simple situation in which the health professional’s proposal is meant with doubt and the more complex situation in which the patient, companion and health professional each adopt a different position. In the simple discussion situation, the professional acts as a protagonist in a non-mixed difference of opinion with the patient and companion. In the more complex situation, the patient, com-

panion and health professional each adopt a unique role: either that of the protagonist, of the opposing antagonist or that of the doubting antagonist. It should be noted here that, in principle, each of these discussion roles can be adopted by each of the participants. Indeed, Van Poppel and Pilgram (2025) found, perhaps unexpectedly, that patients and their companions also acted as protagonists, albeit that this was in a minority of the cases.

What does this mean for shared decision-making? Distinguishing between the different discussion situations allows for systematically determining whether any coalitions are formed, which in turn is necessary for determining the relevance of the companion's contributions to shared decision-making. For example, in a discussion situation in which both the patient and companion act as opposing antagonists, they can build a case together against the health professional's treatment proposal. In such a case, the professional should not only consider the patient's objections but also those of the companion in the shared decision-making process. Thus, Van Poppel and Pilgram (2025) argue that the main practical implication that their pragma-dialectical analyses bring to light is to include patient companions in the shared decision-making process, something which has so far not been considered. Indeed, they show that, even in discussion situations in which the patient and companion are not in a coalition, the companion might possess unique information that is valuable for shared decision-making, such as knowledge about whether the patient forgets to take medication or whether the patient snores. By recognising that the companion could take part in the decision-making process, this information can be incorporated.

3. Applying pragma-dialectics to other challenges for shared decision-making

The previous sections showed that the pragma-dialectical argumentation theory has been applied to systematically analyse and evaluate various aspects of shared medical-decision making, highlighting potential implications for medical consultations. This raises the question to what extent this theory can be used to address open or emerging challenges for shared decision-making. I will address this question by briefly examining two prominent but distinct challenges: the role of medical misinformation and the use of Artificial Intelligence in the decision-making process.

More and more, patient misinformation poses a challenge for shared decision-making. For instance, Dutch news outlets reported that physicians notice that patients increasingly obtain health advice from influencers, rather than from verified medical sources (Van Gaalen and Rosman 2023; RTL Nieuws

2023). For shared decision-making, medical misinformation brought in by the patient poses a particularly significant threat, because it is more difficult for a misinformed patient and health professional to establish sufficient common ground to come to a shared decision (see Section 2.1). Moreover, health professionals are confronted with the task of countering the patient's misconceptions – which the patient could even regard and present as medical expertise – during the already limited consultation time (see Section 2.2).

To what extent can a pragma-dialectical approach be used to analyse or even tackle medical misinformation? Let me start out by pointing out that the pragma-dialectical theory cannot always or necessarily be used to identify misinformation. As the name already indicates, the pragma-dialectical theory is fundamentally dialectical in nature, not epistemological. According to this theory, the acceptability of a standpoint hence depends on the parties involved in the discussion and their starting points (as well as a rule governed testing procedure of the acceptability of a standpoint). To take it to the extreme, this means that if a protagonist and antagonist both think that vaccines cause autism, then they could perfectly well end up agreeing on a standpoint that people should refuse vaccination without violating any of the rules for a critical discussion. However, in medical practice, such extreme situation is unlikely to occur. In fact, health professionals are trained in medical evidence, and in a discussion with misinformed patients, will presumably not agree to medically disputable treatments.

So, where pragma-dialectics can be used in addressing this challenge is in analysing how medical misinformation affects the shared decision-making process (e.g., by determining whether misinformed patients commit certain fallacies, such as hasty generalisations or *ad verecundiam* fallacies) and potentially counter medical misinformation (e.g., by outlining how a health professional could strategically react to such fallacies). For example, the pragma-dialectical notion of argument scheme with its accompanying critical questions in combination with the notion of strategic manoeuvring could aid both the analysis and countering medical misinformation. Health communication scholars and health professionals alike could pose critical questions to identify or question fallacious contribution by patients. As such, the pragma-dialectical theory might be a practical tool when confronted with medical misinformation.

A different and relatively new challenge for shared decision-making is the use of Artificial Intelligence to support the decision-making process. Typically, AI offers this support by aiding patients in a part of the shared decision-making process with a health professional, for instance, by providing a decision aid that can be used before the medical consultation. In their scoping review, Abbasgholizadeh Rahimi et al. (2022) conclude that the use of AI in shared decision-making is still in its infancy, and call for research to focus more on

the explainability, interpretability, reproducibility and human-centredness of AI interventions. As argumentation plays a fundamental role in shared decision-making, argumentation theory, particularly normative approaches such as the pragma-dialectical theory, might be used to explain and interpret AI interventions, particularly self-learning AI in which it is not entirely clear how the intervention is constructed (i.e., opaque, non-symbolic AI).⁴ For example, a pragma-dialectical reconstruction of the argumentation structures underlying AI generated decision aids might enhance our understanding of the process behind it, as a kind of post hoc rationalisation.

Moreover, insights from normative argumentation approaches such as pragma-dialectics have the potential to be used as heuristics in non-opaque symbolic AI supporting shared decision-making (i.e., the type of AI with programmed steps based in logic). Kökciyan et al. (2021) already apply “metalevel argumentation frameworks” in their AI system that supports medical decision-making. These frameworks enable AI to detect patients’ conflicting reasoning, their preferences and possible opposition to claims. The argument frameworks that Kökciyan et al. (2021) use already distinguish between justifying, rejecting, defeating and preferring contributions to the AI system. Pragma-dialectics could be used to further refine these contributions. For instance, the AI system could further distinguish between different types of justifications for a particular medical decision that vary in argumentation structure and argument schemes.

So far, I have focused on the potential application of pragma-dialectics to two major challenges for shared decision-making. At the same time, some challenges have arisen in the extant research on argumentation in shared decision-making that still have to be met. Questions such as “To what extent can a pragma-dialectical evaluation of medical decision-making determine whether the ideal of shared decision-making is fully obtained?” (see Section 2.1), “To what extent is it reasonable for a health professional to steer the decision-making process towards a particular outcome?” (see Section 2.2) and “When exactly should one include the deliberation contributions by a patient’s companion in shared decision-making?” (see Section 2.3) remain to be answered. This calls for a further investigation of argumentation in shared decision-making in which a pragma-dialectical approach could be taken.

4. Non-symbolic (or sub-symbolic) AI is distinct from classical symbolic AI in that it does not use human readable input but directly deduces patterns from data by means deep learning (see Ilkou & Koutraki, 2020). Thus, it is ‘opaque’ in the sense that nobody really knows exactly what the output of the AI is based on (see Mostow, 2020).

4. Conclusion and discussion

In conclusion, the pragma-dialectical argumentation theory provides a crucial framework for understanding and analysing shared decision-making in medical consultations. Due to the compatibility between the ideals of shared decision-making and the model of a critical discussion, pragma-dialectics offers a systematic approach to evaluate obstacles to the shared decision-making process (such as time constraints and implicit persuasive techniques). Moreover, pragma-dialectics can be used to analyse complex discussion situations, such as situations resulting from the presence of patient companions as third parties in medical consultations. Analysing these complex discussion situations enables identifying practical ways in which shared decision-making could be further improved (such as considering patient companions in protocols for shared decision-making). Thus, the systematicity that the pragma-dialectical approach offers allows for identifying practical implications for shared decision-making that might otherwise be overlooked.

Beyond these contributions, pragma-dialectics also has the potential to be used in addressing challenges for shared decision-making, such as dealing with medical misinformation, and the integration of AI into the decision-making process. Pragma-dialectical concepts (such as those of argument schemes and argumentation structures) might be used analytically, critically or heuristically when exploring these challenges. At the same time, there are still issues unexplored in the extant pragma-dialectical research on shared decision-making (such as the extent to which it is reasonable for a health professional to steer the patient towards a particular medical decision), which requires further investigation as well.

Although the pragma-dialectical approach lends itself to the study of shared decision-making, its application also has limitations of which shared decision-making researchers should be aware. One important limitation is that pragma-dialectics can neither be used to determine the exact content of the pros and cons of the medical options discussed in the decision-making process, nor to determine when the main pros and cons have been discussed. These are questions that should be answered in the field of medicine, not that of argumentation. In a similar vein, pragma-dialectics can neither be used to determine what a patient's preferences are, nor how to elucidate them. These issues belong to the field of psychology. This is not to say that these limitations should prevent researchers from studying shared decision-making from a pragma-dialectical perspective; it only shows that the study of shared decision-making is fundamentally interdisciplinary.

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