

For the Sake of Argument:

Considering the Role, Characteristics, and Effects of Argumentation in General Practice Consultation

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In loving memory of my grandfather, Hendrik Labrie, who – perhaps unwittingly – sparked my enthusiasm for argumentation, and my grandmother, Elizabeth den Hartog, who taught me the immeasurable importance of reasonableness.

Summary

In general practice consultation, the doctor characteristically gives the patient advice concerning the patient's medical situation. Such advice may, for instance, pertain to a diagnosis or prognosis of the patient's health condition, the recommended treatment plan, or the prevention of an illness. Bound by the legal rules (e.g., *informed consent*), ethical standards (e.g., *patient-centered* and *evidence-based* medicine), and social discursive conventions (e.g., *obligation-to-defend* rule) that apply in the institutionalized context of medical consultation, the general practitioner is inherently obliged to support his medical advice with argumentation. By doing so, the general practitioner can simultaneously justify his medical recommendations while encouraging the patient to actively take part in the treatment decision-making discussion.

This dissertation project sets out to critically examine the precise role, characteristics, and effects of doctors' provision of argumentation to support their medical advice during general practice consultation. In a series of five research articles, both qualitative and quantitative methods are applied to explore to what extent the study of doctor-patient communication can benefit from insights gained in argumentation theory. The (extended) pragma-dialectical theory of argumentation (van Eemeren & Grootendorst, 1984; 1992; 2004; van Eemeren & Houtlosser, 2002; 2006) is used as the theoretical point of departure in this dissertation.

The findings of a systematic literature review (Chapter II) demonstrate that while the use of argumentation in medical consultation is increasingly investigated by scholars from a variety scientific backgrounds, thus far interdisciplinary, theory-driven and empirically-grounded research that takes a quantitative approach has been lacking. This project aims to bridge this gap. Using qualitative methods, it studies how general

practitioners can strategically use argumentation to create common ground with their patients and, as such, start the treatment decision-making discussion in a reasonable, yet favorable way (Chapter III).

Furthermore, this dissertation addresses the merits of observational content analysis as a method for the quantitative examination of argumentative in context (Chapter IV). It shows that content analysis can be used to enrich the characterization of medical consultation as an argumentative activity type, to justify the exploration of certain argumentative phenomena in consultation practice, and to lay bare the correlations between general practitioners' use of argumentation and features of the communicative context (e.g., visit duration, gender, communication style) (Chapter V).

Lastly, by means of a randomized-controlled experiment, this dissertation establishes the causal relationships between general practitioners' provision of reasonable argumentation to support their treatment advice and outcomes of the consultation (Chapter VI). The findings of the vignette-based experimental study demonstrate that doctors' use of reasonable arguments positively affects patients' perceptions of their doctor as a credible medical expert and a participatory decision-maker. Moreover, general practitioners' provision of reasonable argumentation is shown to have a positive effect on patients' acceptance of, and intended adherence to, medical recommendations.

On the basis of the findings, this dissertation contributes to endeavors in the field of health communication that aim to analyze, understand, and ultimately improve the interaction between doctors and their patients. Moreover, it provides new insights to argumentation theoretical research that seeks to study the use of argumentation in context. Finally, the results have the potential to significantly influence medical consultation practice. The dissertation lays bare the importance of general practitioners' argumentation, not only in light of *legal*, *ethical*, and *social discursive* standards, but also in view of consultation outcomes and, thus, *pragmatic* considerations.

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Chapter I

Introduction

Nanon Labrie

1.1 Argumentation in general practice consultation

Unlike certain other communicative contexts, such as the judicial and political context, general practice consultation is not ubiquitously recognized as a communicative setting in which argumentation takes place. In everyday English, the word *argumentation* is often associated with acts of bickering and quarreling and, as a result, to contemporary scholars of health communication it may seem quite misguided to label general practice consultation as an *argumentative activity type* (cf. van Eemeren, 2010). However, when the term argumentation is used to refer to a dialogical process that is aimed at resolving a potential difference of opinion in a constructive way by putting forward arguments in support of a point of view (van Eemeren & Grootendorst, 1984; 1992; 2004), characterizing the interaction between general practitioners and their patients as essentially argumentative in nature is both befitting and beneficial.

In general practice consultation, the doctor characteristically provides the patient with advice concerning the patient's medical situation. Such advice may, for instance, pertain to a diagnosis or prognosis of the patient's health condition, the recommended treatment plan, or the prevention of an illness. The doctor, in his role as a medical expert, is expected to have all medical knowledge, training, and expertise that is necessary to adequately diagnose and advise the patient. Yet, the patient brings valuable information to the medical encounter as well (Roter & Hall, 2006). The patient can provide the doctor with information about his beliefs, values, experiences, and preferences regarding his health condition. This information is essential for the treatment decision-making process (Ong, de Haes, Hoos, & Lammes, 1995).

The doctor typically acts as the discussion leader who guides the treatment decision-making process through its different phases. However, the patient too may play an active role in the decision-making discussion. As a result of the patient's unique,

personal perspective on his own health, the patient may not always immediately agree with the doctor's medical opinions and advice. The patient may have initial doubts about the doctor's diagnosis and recommendations or, at times, even explicitly voice a different opinion. The following examples illustrate this. The first example is taken from Pilnick and Coleman (2003). During the medical visit, the doctor urges his patient to quit smoking. He suggests that the patient's bad cough is caused by his heavy smoking behavior. The patient explicitly shares his doubts about the severity of his condition:

Doctor: Most non-smokers, you know, don't cough up phlegm.

Patient: Well, I don't really like, you know, I don't think I'm that bad.

In the second example, adapted from Stivers (2005), the doctor advises against antibiotics to treat his patient's young sons' viral infection. However, on the basis of his experience, the father thinks differently. He believes that antibiotics would prove helpful:

Doctor: I think from what you have told me that it is probably a kind of viral infection that I do not think antibiotics will kill.

Father: Well, I had the symptoms three weeks ago and I started taking the antibiotic yesterday and it seemed to take care of the problem.

Charles, Gafni, and Whelan (1999) propose that when engaging in medical decision-making, for instance about a diagnosis or the prescription of medication, doctor and patient should not only share their perspectives and exchange all clinical and personal information relevant to the patient's condition. They argue that doctor and patient should also proceed through a *deliberation* phase in which they engage in a discussion that is aimed at creating common ground, clarifying uncertainties, resolving all

differences of opinion, and achieving a shared understanding of the patient's condition and the different treatment options available (Street, Makoul, Arora, & Epstein, 2009, p. 298). They propose that only once this phase is completed, a mutually accepted decision can be made.

The view outlined by Charles, Gafni, and Whelan (1999) is characteristic of contemporary *patient-centered* approaches to medical consultation and, in particular, the ethical standard referred to as the *shared decision-making* model (e.g., Charles, Gafni, & Whelan, 1997; Charles, Whelan, Gafni, Willan, & Farrell, 2003; Edwards & Elwyn, 2009; Elwyn, Edwards, & Kinnersley, 1999; Frosch & Kaplan, 1999). The shared decision-making model views doctor and patient as coequal discussion partners that work together in order to determine the most appropriate course of treatment for the patient. The doctor is no longer considered an undisputed, paternalistic authority that simply 'knows best' and the patient is, similarly, no longer regarded as a merely passive recipient of medical directions. Instead, the doctor's diagnoses and recommendations are considered medical *opinions* or, in argumentation theoretical terms, *standpoints*, which may meet with the patient's opposition. The patient may doubt the doctor's standpoint, or be presumed by the doctor to do so (a *non-mixed difference of opinion*), but the patient may also explicitly disagree with the doctor (a *mixed difference of opinion*). The doctor is not allowed to prevent the patient from freely expressing his doubt or disagreement.¹

When engaging in a treatment decision-making discussion that is aimed at resolving a difference of opinion, doctor and patient are expected to ideally provide arguments to support their views. That is, they should advance reasons that do not only

1. In the pragma-dialectical theory of argumentation, this is expressed in the Freedom Rule, which stipulates that discussants cannot prevent each other from expressing doubt or disagreement (van Eemeren & Grootendorst, 2004).

explain their standpoints, but that are also aimed at convincing their discussion partner of the acceptability of their views. After all, it can be assumed that at the start of the discussion each party indeed believes that its own standpoint represents the most acceptable diagnosis, prognosis, or course of action in light of the patient's health condition as well as their existing knowledge, experience, beliefs, and values.² Through the provision of argumentation, doctor and patient may each try to reasonably convince the other party to agree with their point of view.

There are several reasons why doctor and patient should provide argumentation for their standpoints to resolve their differences of opinion during medical consultation. First, the doctor is bound by legal regulations. Under the legal obligation of *informed consent* the doctor is required to adequately disclose all relevant information concerning the patient's health condition and the advised course of action. This includes informing the patient of the possible treatment risks and outlining the advantages and disadvantages of other available treatment options. Meeting this obligation enables the patient to make an autonomous and informed decision about his health. Second, ethical ideal models stimulate that doctor and patient ideally "argue their case" (Labrie, 2012, p. 178). Patient-centered approaches, as described in the above, encourage doctor and patient to cooperatively engage in a rational deliberation process that is aimed at reaching a shared decision – provided that the patient is in fact willing and capable to do so. Moreover, the ethical standard of *evidence-based* medicine warrants doctors' use of argumentation by stipulating that doctors should base their medical diagnoses and advise on explicit medical evidence (Bensing, 2000). Third, general social discursive

2. This could be viewed as a preparatory felicity condition (cf., Searle, 1969) for the advancement of a medical standpoint. For a discussion of the felicity conditions for advancing standpoints, see Houtlosser (1994).

conventions give rise to doctors and patients' responsibility to provide argumentation for their standpoints when striving to resolve their differences of opinion. To reach an agreement concerning, for instance, a diagnosis or course of treatment that is the result of both discussion parties' reasonable conviction, it is imperative that doctor and patient are willing to advance argumentation to support their views when requested to do so. For if either doctor or patient would persistently refuse to provide a rationale for his point of view, the discussion and, as a result, the resolution process would become paralyzed. In argumentation theory, the requirement to advance arguments during a critical discussion when asked to, is referred to as the *obligation-to-defend* rule (van Eemeren & Grootendorst, 2004).

The general and institutional requirements described in the above in particular call strongly for the doctor to support his opinions and advice with argumentation. The present project, therefore, focuses predominantly on general practitioners' use of argumentation. The doctor is legally obliged to assume that the patient may possibly have concerns or doubts about his medical standpoints and should, therefore, provide argumentation *prima facie*. Moreover, it is the doctor's responsibility to encourage the patient to voice his opinions, to engage in a discussion process, and ultimately to take part in the decision-making process. If the patient is not willing or able to engage in the treatment decision-making discussion, for instance because of the patient's age or health condition, doctor and patient may opt for a paternalistic approach instead. However, a competent, adult patient retains the legal right to make the final decisions concerning his own health and, as a result, to end the treatment decision-making discussion in a settlement.³

3. A distinction should be made between settling and resolving a difference of opinion. While the point of settling a dispute is merely that a difference of opinion is brought to an end, a difference of opinion is

1.2 Main objectives and theoretical framework

In this dissertation, general practitioners' use of argumentation to support their medical opinions and advice is studied in light of their *legal*, *ethical*, and *social discursive* obligations to do so. The overall aim of the project is multifold. Most importantly, this project strives to demonstrate the relevance and potential of theory-driven research on the role, characteristics, and effects of argumentation in general practice consultation. Researchers in the field of argumentation theory have long recognized the essentially argumentative character of doctor-patient consultation. Yet, despite a strong focus on the investigation of a large variety of communicative aspects that play a role in the medical encounter, scholars of health communication have paid only limited attention to argumentation as a discursive phenomenon (Labrie & Schulz, 2013).

This dissertation therefore, first and foremost aims to provide a solid foundation for argumentation research in the field of health communication. Second, as the project is carried out at the intersection between the two research fields, this dissertation also strives to further argumentation theoretical research by studying general practitioners' use of argumentative discourse in actual consultation practice, using a variety of research methodologies. While argumentation theoretical research is traditionally often reflective or qualitative in nature, in this project doctors' argumentation is analyzed and explored quantitatively as well. The aim is to thereby enrich current characterizations of medical consultation as an argumentative activity type (e.g., Labrie, 2012; Pilgram, 2009; Snoeck Henkemans & Wagemans, 2012).

resolved only if the parties involved have reached agreement on whether or not the disputed opinion is acceptable.

The triangulation of methods used in the present project allows for a richer depiction of the different aspects of argumentation in general practice consultation. The use of a variety of research techniques can be viewed as the third, functional objective in the present project. By using quantitative methods in addition to qualitative analyses, for instance the extent to which argumentation occurs in general practice can be measured, the relationships between general practitioners' provision of argumentation and visit characteristics can be explored, and the causal effects of argumentation can be established.

Lastly, this project aims to determine whether – in addition to doctors' legal, ethical, and social discursive requirements – there are *pragmatic* reasons for general practitioners to advance argumentation for their medical opinions and advice. In other words: are there functional incentives for doctors to argue for their standpoints, for instance in terms of improved consultation outcomes? This dissertation aims to provide an answer this question.

To study the role, characteristics, and effects of argumentation in general practice consultation, this dissertation starts from the pragma-dialectical theory of argumentation, which was developed by van Eemeren and Grootendorst (1984; 1992; 2004) and extended by van Eemeren and Houtlosser (e.g., 2002; 2006) and van Eemeren (2010). There are different reasons for adopting a pragma-dialectical approach in the present project. These will be briefly outlined here.

The pragma-dialectical theory of argumentation provides a solid, comprehensive, and well-defined framework to the study of argumentative discourse. In pragma-dialectics, argumentation is viewed as a part of a critical, dialogical exchange that is ideally aimed at resolving a difference of opinion on the merits by engaging in a discussion that is in accordance with certain standards of reasonableness. These

standards of reasonableness are laid down in a series of rules that together constitute a code of conduct for discussants engaging in an argumentative dialogue. A rule violation is seen to amount to an impediment to the resolution of the difference of opinion at hand and is, therefore, considered an unreasonable discussion move, or a *fallacy* (Eemeren & Grootendorst, 1984; 1992; 2004).

The pragma-dialectical theory provides the analyst of argumentative discourse with an analytical tool that is both normative and descriptive in nature. On the one hand, the model can be seen to serve as a blueprint of argumentative conduct, providing the criteria for a standard, reasonable discussion on the merits. On the other hand, the analyst can use the ideal model to describe argumentative reality, using it as a grid of measurement. That is, argumentation in practice can be reconstructed and analyzed using the pragma-dialectical framework in order to assess the extent of reasonable conduct demonstrated by the participants in a discussion.

The pragma-dialectical conceptualization of reasonableness allows for a distinction to be made between those argumentative moves that contribute to the resolution of a difference of opinion and those moves that hinder the resolution process. This is particularly noteworthy when studying doctor-patient decision-making. Wirtz, Cribb, and Barber (2006, p. 121) argue that contemporary decision-making models lack a detailed account of how doctor and patient should embark on a deliberation that involves a discussion about beliefs, values, experiences, and preferences and, finally, the making of a decision. Instead, according to the authors, “deliberation is typically described with short umbrella phrases such as *mutual discussion* or *negotiation*”. The pragma-dialectical theory of argumentation shares its resolution-oriented perspective with patient-centered approaches, such as the shared decision-making model. Yet, additionally it offers a normative framework for a reasonable discussion procedure between doctor and patient.

In the extended pragma-dialectical theory it is assumed that in argumentative reality discussants do not solely aim to reasonably resolve a difference of opinion. In addition, they are presumed to strive to effectively conclude the dispute in their own favor (van Eemeren, 2010). To account for discussants' continual efforts to reconcile their dialectical and rhetorical objectives, van Eemeren and Houtlosser (2002; 2006) introduced the concept of *strategic maneuvering*. They distinguish three aspects of strategic maneuvering: throughout the discussion, discussants can make an opportune selection from the topical potential, may adapt their responses to meet audience demand, and can exploit the presentational devices that are available to them (van Eemeren, 2010, p. 93). By strategically doing so, they can maintain a balance between their goals of dialectical reasonableness and rhetorical effectiveness. The introduction of the concept of strategic maneuvering has a particular advantage for the study of general practitioners' argumentation. Starting from this notion, it can be explained how general practitioners may essentially strive to reach a mutual decision that is based on a reasonable discussion process, while simultaneously aiming to convince their patient that their own point of view is most favorable. Such a perspective on doctors' argumentative goals seems to do justice to the empirical reality of general practice consultation.

Over the past years, pragma-dialecticians have increasingly focused on the study of argumentative discourse in context. That is, they have aimed to characterize argumentation taking into account the peculiarities of the particular institutionalized context it is embedded in. Consider, for instance, the context of legal cases, political interviews, or pharmaceutical advertising. In light of this endeavor, general practice consultation has been carefully characterized as an argumentative activity type too (e.g., Labrie, 2012; Pilgram, 2009; Snoeck Henkemans & Wagemans, 2012). The theoretical and qualitative accounts of medical consultation that have been provided in pragma-dialectics provide a firm foundation and starting point for further, quantitative studies

such as the ones described in the present project. Therefore, throughout the dissertation, pragma-dialectics is used to conceptualize, analyze, evaluate, and measure general practitioners' argumentation.

1.3 Research questions and organization of the study

The dissertation consists of a collection of articles resulting from four individual studies that were carried out at the Institute of Communication and Health at the Università della Svizzera italiana in Lugano (Switzerland) between 2010 and 2013. Each of the articles has been submitted for publication in a prominent, peer-reviewed scientific journal with a focus on either health communication or argumentation theory. While every article addresses a distinct research question pertaining to the various argumentative aspects of general practice consultation, jointly the articles contribute to the main research objective of this dissertation project: to elucidate the relevance and promise of the study of argumentation in the field of health communication.

Scholars of argumentation theory have characterized general practice consultation as an essentially argumentative activity type. Yet, a question that has thus far remained unanswered is the following:

Question 1: To what extent have theories and concepts of argumentation been applied by scholars from various fields to analyze, understand, facilitate, and improve the interaction between doctors and their patients?

In an attempt to answer this question, Chapter II reports on the results of a systematic review of the literature. Forty relevant scientific contributions that discuss the

argumentative nature of general practice consultation are grouped into four research disciplines (argumentation theory, discourse analysis, medical informatics, and medical ethics) and discussed accordingly. Based on the findings, suggestions for future studies are provided encouraging researchers to take an interdisciplinary, theory-driven approach while simultaneously maintaining a strong focus on empirical reality when studying argumentation in general practice consultation. Moreover, the use of quantitative research methods is recommended. A preliminary model is proposed that outlines the potential effects of doctors' argumentation on proximal, intermediate, and long-term consultation outcomes.

Chapter III examines argumentation in general practice consultation taking a qualitative approach. Starting from the pragma-dialectical theory of argumentation theory, medical consultation is described as a communicative activity type in which argumentation plays an essential role. The main question addressed in this chapter can be formulated as follows:

Question 2: How do general practitioners strategically create common ground with their patients to establish a solid yet favorable starting point for the treatment decision-making discussion?

The dialectical profile for establishing starting points (van Eemeren, Houtlosser, & Snoeck Henkemans, 2007, p. 90) is used to provide an overview of the different – analytically relevant – dialectical moves that general practitioners may make at the opening stage in order to create common ground with their patients and establish a shared point of departure for the treatment decision-making discussion. These dialectical moves and their possible subsequent pathways are discussed on the basis of excerpts of actual consultation practice. Moreover, based on the assumption that general

practitioners not only strive to achieve dialectical goals (i.e., a *common* point of departure) but also rhetorical aims (i.e., a *favorable* point of departure), some of the strategic maneuvers doctors may deploy to start the critical resolution process in the most favorable way are identified. These maneuvers are linked to the aims that are inherently embedded in the institutional context of medical consultation. While this chapter has a strong basis in argumentation theory, its results are insightful for the field of doctor-patient consultation.

Chapter IV and V discuss a quantitative content analysis of seventy videotaped medical consultations of which the extent and type of doctors' argumentative support for medical opinions and advice are analyzed. As the development of quantitative measurement tools can be seen as crucial for the advancement of social science research, Chapter IV aims to answer the following question:

Question 3: Can we develop an accurate and precise tool to systematically measure doctors' argumentation in general practice consultation?

Chapter IV provides a detailed account of the development and subsequent implementation of the measurement tools for a quantitative content analysis. On the basis of some of the first findings, this chapter addresses the merits of observational studies using content analysis as a method for the analysis of argumentative discourse in context, as well as some of its key challenges and limitations. In addition, it lays bare the opportunities for future, argumentation theoretical research.

Drawing on some of the key findings and, thereby illustrating the usefulness of quantitative argumentative analyses, Chapter V discusses the relationships between general practitioners' use of argumentation and characteristics of the medical visit, such

as the duration of the encounter, general practitioners' perceived decision-making style, and the discussants' gender. This chapter, thus, strives to answer the following question:

Question 4: Is there a correlation between general practitioners' provision of argumentation and characteristics of the medical visit, such as visit length, participant gender, and decision-making style?

Addressing this question, which is of particular relevance to scholars of health communication, this chapter points out the essential role of general practitioners' provision of argumentation – not only to adhere to legal, ethical, and social discursive conventions, but also for pragmatic reasons.

While observational studies can provide valuable, quantitative insights concerning the argumentative aspects of the doctor-patient relationship in medical practice, they are inapt to unequivocally determine the causal relationships between communication and outcomes. Therefore, Chapter VI explores general practitioners' use of argumentation experimentally, using scripted video-vignettes. It attempts to answer the question:

Question 5: What effects does general practitioners' provision of argumentation have on outcomes of the consultation?

More precisely, Chapter VI studies the causal effects of general practitioners' argumentation on patients' perceptions of their doctors' decision-making style and credibility, their acceptance and recall of the medical advice, and subsequently their intention to adhere to the advice. Rather than focusing on the effects of the mere presence of argumentation, this chapter takes the role of the pragma-dialectical

reasonableness of general practitioners' argumentation into account as well. Thereby, this chapter provides valuable insights for scholars in the field of doctor-patient communication as well as argumentation theory

Finally, Chapter VII summarizes the most important findings of the studies presented in the dissertation. It provides a general overview and discussion of the role, characteristics, and effects of general practitioners' provision of argumentation for their recommendations during medical consultation. Taking into account the limitations of the present project, this chapter outlines some of the future directions for research into the (combined) fields of argumentation theory and health communication. Lastly, it addresses the implications of the findings for medical practice.

Chapter II

Does argumentation matter? A systematic literature review
on the role of argumentation in doctor-patient communication

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Abstract

In view of a growing interest in argumentative discourse in the context of patient-centered consultation and shared decision-making, this paper explores the role that argumentation has been attributed in the literature on doctor-patient consultation so far. It studies to what extent theories and concepts of argumentation have been applied by scholars from various fields in order to analyze, understand, facilitate, and improve the argumentative nature of medical consultation. It reports on an extensive and systematic literature search – using eight online databases, expert suggestions, and a manual search – and the subsequent evaluation of 1330 abstracts on the basis of strict inclusion and exclusion criteria. 40 relevant scientific contributions are grouped into four main categories and discussed accordingly: (1) argumentation theory, (2) discourse analysis, (3) medical informatics, and (4) medical ethics. Because of its systematic approach, this study forms a solid starting point for further integration of argumentation theoretical insights into contemporary views of patient-centered medicine and evidence-based medicine. It provides suggestions for further interdisciplinary and theory-driven research with a strong focus on empirical reality. In doing so, a preliminary model is proposed that outlines the potential effects of doctors' argumentation on proximal, intermediate, and long-term consultation outcomes.

Keywords

Systematic literature review, doctor-patient consultation, argumentation (theory), patient centeredness, (shared) decision-making

2.1 Introduction

Over the past decades, the shared decision-making model has been increasingly promoted as the preferred standard of treatment decision-making in doctor-patient communication. In contrast to a traditional approach in which the doctor is assumed to know best and is regarded the primary decision-maker, the shared decision-making model advocates a decision-making process in which doctor and patient actively take part as coequal partners (Charles, Gafni, & Whelan, 1997; 1999; Gwyn & Elwyn, 1999). While the model views the doctor as an expert holding specialist medical knowledge, it considers the patient to bring a unique personal perspective to the consultation that captures feelings, expectations, and treatment preferences. Hence, doctors' and patients' viewpoints are considered to be distinct yet of equal importance to the decision-making process.

Charles, Gafni and Whelan (1997) define the practice of shared decision-making as "the involvement of both the patient and the doctor, a sharing of information by both parties, both parties taking steps to build a consensus about the preferred treatment, and reaching an agreement about which treatment to implement" (p. 681). Following Frosch and Kaplan (1999), the model of shared decision-making goes several steps further than the legal doctrine of informed consent. Beyond presenting the patient with medical information and asking the patient to consent prior to treatment, shared decision-making promotes a process in which both doctor and patient explicitly voice their preferences as well as their underlying rationale. It is assumed that both parties have a legitimate investment in the decision process and, moreover, make a commitment to resolve any disagreement that arises in a mutually respectful manner (Roter & Hall, 2006). Such disagreement may surface when there is no unambiguous evidence about the best treatment option or when doctor and patient disagree about the implications of a

certain treatment method. “Physician and patient are then in conflict, and a solution needs to be negotiated” (Towle & Godolphin, 1999, p. 768).

Promoting a decision-making process in which doctor and patient aim to build consensus about the appropriate treatment to implement and coequally negotiate a resolution to any disagreement that arises during consultation, shared decision-making constitutes more than explicitly engaging in a dialogue. Shared decision-making can be said to involve a process of argumentation in which the participants act as rational discussion partners who are expected to be capable of critically evaluating their interlocutors’ treatment preferences and to provide a rationale for their own. In other words, doctor and patient are expected to each “argue their case”.

The argumentative character of doctor-patient communication aimed at shared decision-making has thus far been largely neglected. Studies that explicitly explore the role of argumentation in medical consultation seem still rare. A possible explanation for this is that the term *argumentation* is often associated with acts of bickering and quarreling (van Eemeren, 2010, p. 26). Defining argumentation as such, indeed analyzing doctor-patient consultation as an argumentative activity is at odds with a shared decision-making approach. In this paper, however, a definition of argumentation is chosen that resembles its usage in other languages, like Dutch (*argumentatie*), German (*Argumentation*), and Italian (*argomentazione*), in which the negative connotation is not present. Argumentation, as used in this paper, refers to a joint effort of dialogical partners to resolve a difference of opinion by rationally convincing the other party of the acceptability of one’s treatment preference by means of advancing arguments. Therewith, the resolution-oriented and shared character of treatment decision-making discussions is emphasized.

In order to provide a comprehensive starting point for the integration of insights from argumentation theory into contemporary views of patient-centered medicine and

evidence-based medicine, this literature review aims to systematically explore and map out the role that argumentative discourse has been attributed in the literature on doctor-patient consultation. To what extent have theories and concepts of argumentation been applied by scholars from various fields to analyze, understand, facilitate, and improve the argumentative nature of medical consultation? From which scientific disciplines do contributions acknowledging the argumentative nature of doctor-patient consultation originate? By answering these questions and providing suggestions for further research, this literature review seeks to contribute to endeavors in the field of health communication to explore the potential for improving the quality of doctor-patient consultation and, ultimately, its outcomes.

2.2 Methodology

To identify relevant studies, eight online databases were searched, encompassing both databases with a medical orientation as well as databases with a focus on the humanities and social sciences: Communication and Mass Media Complete, JSTOR, PsycInfo, PubMed, SAGE, ScienceDirect, SpringerLink, and Wiley Online Library. To retrieve all relevant literature discussing the argumentative nature of medical consultation, a combined key word search was formulated. Search words related to argumentation were combined with either the term *doctor patient consultation* or *medical consultation*. To select the keywords related to the topic of argumentation, first an intuitive list of search terms was created. Subsequently, a thesaurus search was conducted to complete the list of possible terms. This set of keywords was then discussed with an expert in the field of argumentation theory. This resulted in a final list, consisting of the ten terms related to the (process of) argumentation that were most likely to yield relevant results. While the authors were aware of the ambiguity of some of the search terms because of academic

jargon (*discussion*, *argument*), these terms were considered too important to be dismissed. To include as much variants of each word as possible, a wildcard search was used when available. This resulted in a final search strategy as described in Table 1.

Table 1.
Literature search strategy

Consultation search terms	Argumentation search terms
“medical consultation” OR “doctor patient consultation”	(argu*) OR (reason*) OR ("difference* of opinion") OR (disagree*) OR (persua*) OR (rhetoric*) OR (negotiat*) OR (discuss*) OR (disput*) OR (deliberat*)

Note. An asterisk indicates the break-off point for the wildcard search

The initial database search, which was conducted in the second half of 2011, was limited to abstracts and titles only as it was assumed that this would increase the relevance of the results. JSTOR formed the only exception. This database explicitly discouraged an abstract-limited search.¹ Sage did not allow for a complex search containing multiple AND/OR options. Yet, as the simple search for either *medical consultation* or *doctor patient consultation* yielded only 20 results, it was decided to include all these articles in the initial corpus and search these manually for relevant articles. No limitation was set for the time frame.

1. JSTOR discourages abstract-only searches as only ten percent of all records contain an abstract. Moreover, JSTOR allows for maximally three wildcards (*) to be used. Therefore, only the terms argu*, reason*, and discuss* were used.

The search yielded 1330 eligible articles for analysis. Two coders, both trained in argumentation theory as well as health communication, independently judged the articles for their relevance on the basis of the titles and abstracts,² applying a strict set of inclusion and exclusion criteria. To be included, records (journal articles, books and chapters, and proceedings papers) had to be published, either online or in print. All poster presentations, (extended) abstracts, review articles, and encyclopedia entries were excluded from review. For practical reasons, only records written in English were included. With regard to content, publications were deemed relevant when they explicitly discussed or acknowledged the role of argumentation processes in the context of medical consultation or when they referred to the role of argumentation concepts and theories in explaining or aiding the interaction between doctors and their patients.

Upon completion of the abstract analysis, the two coders compared their findings and resolved all differences of opinion through a discussion until full agreement was reached. The ratings prior to full agreement were compared to test for inter-rater reliability. Overall there was substantial agreement between the two raters (97%, $k = .68$). When specified per database (see Table 2), it appeared that while for two databases the agreement was almost perfect (Ebscohost and Springerlink), the inter-rater agreement for JSTOR and Sage was substantially lower than for the other databases. Notably these were the two databases that did not allow for an abstract search, which made the analysis of the potential relevance of the articles more difficult.

In total, 46 unique publications were unanimously deemed relevant and included for further review. To ensure that all important contributions would be included, a complementary manual search was conducted. First, the references of the first 46 articles

2. When an abstract was not included, the coders relied on all other, relevant information available in the database.

were scanned for missing publications. In addition, five experts in the field of health communication and argumentation theory were consulted and asked to add to the existing list of references. Furthermore, a meta-search of Google Scholar was conducted to capture any articles published after the initial search date and to account for un-indexed publications that were still missing. Upon suggestion of one of the experts, the meta-search included the additional search terms *doctor patient interaction* and *doctor patient communication*. Lastly, throughout the writing process a Google Alert was set to keep track of newly published articles containing the search terms.

Table 2.
Inter-rater reliability article analysis

Database	Articles		Inter-rater agreement	
	Found	Included	%	k
Ebscohost	88	5 (6%)	.99	.93
JSTOR	291	3 (1%)	.98	.24
PubMED	219	8 (4%)	.98	.77
SAGE	20	1 (5%)	.90	.47
ScienceDirect	102	14 (14%)	.90	.62
Springerlink	214	11 (5%)	.99	.84
Wiley	396	12 (3%)	.98	.66
Overall	1330	54 (4%)*	.97	.68

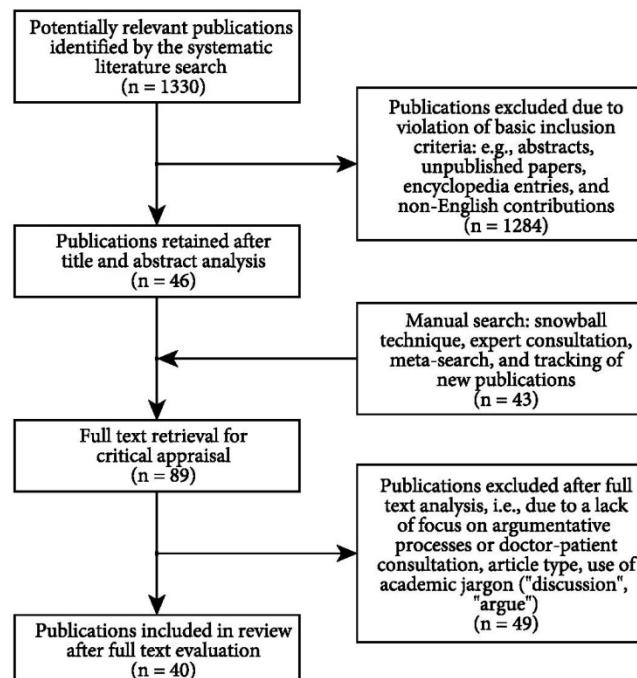
* Of which 46 unique items

The manual search yielded an additional 43 potentially relevant articles for review. The total number of 89 articles was analyzed and reviewed on the basis of their full texts. Upon careful scrutiny of the texts, taking into account the aforementioned criteria, 40 articles were deemed fit for inclusion and subsequently categorized. In Figure 1 the identification process of relevant publications is illustrated.

2.3 Categorization of the articles

Careful scrutiny of the publications yielded by the systematic search reveals that studies focusing on the role of argumentative discourse in the context of medical consultation essentially originate in four scientific domains: (1) argumentation theory, (2) discourse analysis, (3) medical informatics, and (4) medical ethics. Each of these scientific domains is characterized by distinct research aims and objectives and, consequently, by the main theoretical frameworks and research methods used.

While the contributions from the fields of (1) argumentation theory and (2) discourse analysis fall within the broader domain of the humanities and are aimed at creating a unified understanding of communicative interaction in context, the studies originating in (3) medical informatics and (4) medical ethics belong to the realm of medicine and are typically focused on



improving medical practice. While research in the first category is primarily aimed at furthering theories of argumentation, studies belonging to the other three categories use argumentative concepts and principles to describe and improve the communicative interaction between doctors and patients. However, they do not strive to build argumentation theory. This distinguishes discourse analytic studies from

Figure 1. Analysis of the identified contributions

contributions that are categorized under the heading of argumentation theory, although the primary object of study (*discourse* or *text*) is the same.

Also medical informatics and medical ethics are characterized by distinct research aims and objectives. While medical informatics is concerned with the design of decision-making systems and the implementation of models of argumentation, medical ethics takes a theoretical approach to doctor-patient communication and reasoning aiming to establish norms for good medical practice. Table 3, which can be found at the end of this Chapter, provides an overview of all categorized contributions, the theoretical frameworks and methodological approaches used, and their main findings. In the remainder of this paper, each of the four categories will be discussed and, after a discussion of the limitations of the present study, the implications of the findings are considered alongside some suggestions for future research.

2.3.1 *Argumentation theory: Argumentation as a critical discussion procedure*

Traditionally, the discipline of argumentation theory is concerned with establishing the requirements that make arguments “correct” – by some appropriate standard of proof, examining the errors of reasoning that discussants make when engaging in argumentative discourse (Walton, 2009). In recent years, scholars of argumentation have increasingly focused on the study of argumentation in context, exploring the extent to which argumentative discourse is shaped by the institutional setting it occurs in (van Eemeren, 2010). A discussion context that has received particular attention is the context of doctor-patient consultation. Walton (1985) summarizes the argumentative character of doctor-patient consultation as follows:

Medical treatment is a complex two-person interaction where each party has a distinct role. Underlying the interaction is a technical or productive process, an

action. Partly physical in nature, the action also has a purposeful element. And overlaying the action is a network of communicative interchange, a dialogue or reasoned exchange of information and argumentation (Walton 1985).

Today, the majority of argumentation theoretical research that focuses on the context of medical consultation takes a pragma-dialectical approach (See Table 3). The pragma-dialectical theory of argumentation (van Eemeren, 2010; van Eemeren & Grootendorst, 2004) views argumentation as a part of a critical exchange that is ideally aimed at resolving a difference of opinion. At the heart of the theory lies an ideal model of a critical discussion that specifies the different stages that can be analytically distinguished in any argumentative discussion as well as the verbal moves that are functional in resolving the difference of opinion throughout these different stages. The basic principles of a critical discussion are laid down in a series of basic rules that together constitute a code of conduct for discussants engaging in an argumentative dialogue. Each rule violation amounts to an impediment to the resolution of the difference of opinion at hand and is therefore considered an unreasonable discussion move, or a *fallacy*. Thereby, the pragma-dialectical ideal model provides a normative account of argumentative discussions that can be used to analyze and evaluate argumentative discourse in reality.

Pragma-dialecticians reconstruct medical consultation as an essentially argumentative activity type (e.g., Labrie, 2012; Pilgram, 2009; Snoeck Henkemans, 2011; van Eemeren, 2010) in which doctor and patient ideally act as rational discussion partners who strive to resolve any difference of opinion by means of a reasonable discussion process. Such difference of opinion may, for example, concern the doctor's diagnosis or prognosis, the proposed method of treatment, or the advised prevention plan (Labrie, 2012; Rubinelli & Schulz, 2006). Doctor and patient may have opposing

viewpoints, but also in case of the patient's (assumed) doubt about the doctor's medical opinion or advice, pragma-dialecticians speak of a difference of opinion.³

Goodnight (2006) argues that a pragma-dialectical reconstruction of doctor-patient interaction is particularly relevant in light of informed consent, which as a "legal constraint, institutional norm, and personal ethic" essentially aims to ensure that doctor-patient communication is based in a reasonable discussion: "the standard of informed consent requires doctors to justify proposals for treatment or procedures, while honoring the duty to create patient understanding, listen to objections, and obtain assent" (p. 84). Rubinelli and Schulz (2006; Schulz & Rubinelli, 2006; 2008) underline this observation and show that a doctor's choice of arguments to support his medical advice can even influence the informed decision-making process (p. 362).⁴

Going beyond the legal doctrine of informed consent, several authors (Labrie, 2012; Snoeck Henkemans, 2011; Snoeck Henkemans & Mohammed, 2012; Snoeck Henkemans & Wagemans, 2012) point out the compatibility of the ideals laid down in the pragma-dialectical model of a critical discussion and those advocated by the shared decision-making model. They argue that, taking a modern perspective of shared accountability, not only the doctor should advance arguments to support his treatment advice, but also the patient should actively engage in the treatment discussion – taking

3. A distinction is made between a *mixed difference of opinion*, in which the discussion parties hold opposing standpoints, and a *non-mixed difference of opinion*, in which one of the parties has – or is assumed to have – doubts about his opponent's standpoint (van Eemeren & Grootendorst, 2004).

4. Also Bickenbach (2012) and Rubinelli and Zanini (2012) connect argumentation in consultation to the notion of informed consent and the shared decision-making model. However, they do not (explicitly) adopt a pragma-dialectical perspective. Zanini and Rubinelli (2012) do use the model of critical discussion, developed in pragma-dialectics.

up the role of a critical antagonist.⁵ In their collaborative attempt to arrive at a treatment decision, doctor and patient moreover should strive to maintain a balance between dialectically reasonable argumentation and rhetorically effective reasoning. In pragma-dialectical terms this argumentative effort is referred to as strategic maneuvering (van Eemeren, 2010).

A sub-type of argumentation – and strategic maneuver – that has received particular attention is authority argumentation (Bigi, 2011; 2012a; 2012b; Goodnight & Pilgram, 2011; Pilgram, 2011; 2012; Snoeck Henkemans & Wagemans, 2012).⁶ In pragma-dialectics, authority argumentation is regarded as a form of argument in which the agreement of a supposed authority with the discussant's standpoint is claimed to be a sign of the acceptability of this standpoint (van Eemeren & Grootendorst, 1992, p. 97). Through case examples, Goodnight and Pilgram (2011) and Pilgram (2011; 2012) elucidate how doctors' strategic and sound use of such argumentation by authority (or *ethos*) in consultation may function as an effective discussion move that can contribute to the resolution of a difference of opinion in medical consultation, while its unsound use provides a hindrance to the resolution process and, therewith, the achievement of a mutually accepted decision. As such, Goodnight and Pilgram (2011, p. 12) argue that the

5. Brashers, Rintamaki, Hsieh, and Peterson (2006) focus on the patient's side of the argumentative discussion in medical consultation through the concept of self-advocacy: the “persuasive efforts of an individual that are in the individual's interest, [...] a unique form of critical discussion” (p. 25).

6. Pilgram (2011) distinguishes between the argument “by authority” and the argument “from authority”. While the former term refers to the kind of authority argumentation in which the authority referred to is the discussion party that presents the argumentation, the latter term refers to the kind in which the authority referred to is a third party. Bigi (2011) refers to authority argumentation as “argument from expert opinion”.

basic rules for the reasonable use of authority argumentation in medical consultation can potentially function as a starting point for formulating guidelines for doctors' argumentative conduct in interacting with their patients. A similar line of argument could be used for other forms of argumentation.

The body of argumentation theoretical research that discusses the role of argumentation in medical consultation is growing rapidly and is built on consistent and comprehensive considerations. The pragma-dialectical theory, which encompasses both normative and descriptive elements, provides an efficient tool for the analysis and reconstruction of argumentative discourse in doctor-patient consultation and has been widely applied with a focus on a variety of argumentative phenomena. Thus far, however, research adopting a pragma-dialectical approach to the study of argumentation in doctor-patient communication is only reflective and qualitative in nature. Quantitative studies that measure doctors' and patients' use of argumentative discourse in medical practice are lacking. While qualitative text analyses provide valuable insights into the role of argumentation in doctor-patient consultation, additional quantitative studies could offer a more profound understanding of the frequency with which certain argumentative phenomena occur in empirical reality. Moreover, quantitative studies would allow for the exploration of possible relationships between doctors' (and patients') use of argumentation and other characteristics of medical consultation. As such, a pragma-dialectical approach to doctor-patient interaction could become of interest to scholars of argumentation and health communication alike.

2.3.2 Discourse analysis: Argumentation as an inherent characteristic of social interaction

The studies categorized under the heading of *discourse analysis* all display an interest in the verbal interaction (i.e., *text*) between doctors and their patients during consultation and explore this discourse starting from conversation analysis, rhetoric, as well as insights from, for instance, politeness theory (Brown & Levinson, 1987) (see Table 3).⁷ They examine the use of argumentative discourse in medical consultation as forming part of the social interaction between the doctor and the patient, taking into account the intrinsic role division of doctor and patient during the consultation. Much like the studies originating from the field of argumentation theory, the majority of discourse analytic contributions start from a contemporary, patient-centered conceptualization of medical consultation. However, their research aims and foci are different.

Drew, Chatwin, and Collins (2000) promote the use of conversation analysis as a theoretical framework and method for the study of doctor-patient interaction. They argue that conversation analysis offers the possibility to identify the choices that doctors make in their turns at talk and the effects of these choices on the quality of the interaction between doctor and patient (p. 58). Analyzing Finnish and American consultation excerpts, they focus on doctors' use of explicit argumentative support for their diagnoses.⁸ They illustrate that doctors can encourage their patients to engage in the

7. In this paper, rather than referring to a specific method 'discourse analysis' is used as an umbrella term to cover a range of approaches that focus on the use and functions of talk and text within social interaction.

8. Rather than using the term "argumentative support", Drew, Chatwin, and Collins (2000) use the terms 'evidence' and 'evidential grounds'. They distinguish between two formats for diagnosis delivery. In a "type I" format, doctors do not refer to "the reasons or evidential grounds for reaching the conclusion: they just

discussion and voice their opinions by making the evidence in support of diagnostic conclusions explicit and thereby available. As such, the doctor can also anticipate the patient's potential disagreement with the diagnosis. This view is shared by Peräkylä (1998, p. 317), who adds that by providing support for their diagnoses, doctors convey their accountability for their viewpoints and, moreover, refrain from claiming the role of the indisputed authority.⁹

Adopting a different approach, Knight and Sweeney (2007) and Segal (1994; 2007; 2008) apply insights from rhetoric and narrative analysis to analyze the interaction between doctors and patients. While Knight and Sweeney advocate the use of logical inference as an analytic tool to explicate the implicit elements of argumentation within doctor-patient interaction,¹⁰ Segal shows that rhetorical analysis can shed light on the ways in which patients strive to convince their doctors that they are ill and in need of care, as well as on the ways in which doctors conversely aim to convince their patients of a method of treatment (2007; 2008). According to Segal (1994), the latter is particularly relevant in light of endeavors to increase patients' medication compliance, while simultaneously maintaining a patient-centered stance.

assert something to be the case". In contrast, in a "type II" format, the doctor explicitly articulates the evidence supporting the diagnosis.

9. Ariss (2009) argues that the inherent gap in knowledge and authority between doctor and patient affects the extent to which patients engage in discussions with their doctors. Taking the perspective of Drew, Chatwin, and Collins (2000) and Peräkylä (1998), however, doctors' provision of explicit argumentation to support a medical opinion or advice could potentially serve to close this gap during the consultation and encourage patients to take part in the discussion.

10. Logical inference is also referred to as syllogistic or deductive reasoning, a form of reasoning in which the one statement is inferred from the truth of two others.

Aronsson and Sätterlund-Larsson (1987) illustrate that disagreement concerning a medical diagnosis or advice is not necessarily detrimental to the doctor-patient relationship. They argue that it is the doctor's role to elicit the patient's opinions and possible "silent" disagreement (e.g., for reasons of politeness) (p. 25). The doctor should, moreover, recognize the patient as an eligible discussion party and respect the patient's perspective. To support his own views, the doctor should provide rational argumentation and only when based on solid medical knowledge and with a fundamental respect for the patient's perspective, the doctor's use of persuasion is legitimated (Steinhaug, Gulbrandsen, & Werner, 2011).¹¹

Doctors' use of explicit, rational argumentation to support medical diagnoses and advice not only adheres to the ideal of patient-centeredness, but also potentially affects consultation outcomes. Several authors argue that doctors provision of argumentation can improve outcomes such as patient adherence and satisfaction (Drew, Chatwin, & Collins, 2000; Feng, Bell, Jeran, & Kravitz, 2011; Segal, 1994; Steinhaug, Gulbrandsen, & Werner, 2011) and may contribute to the clarification of expectations, increased patient participation, and a more balanced doctor-patient relationship (Aronsson & Sätterlund-Larsson, 1987; Peräkylä, 1998; Steinhaug, Gulbrandsen, & Werner, 2011).

Much like the contributions from the field of argumentation theory, the vast majority of studies taking a discourse analytic approach to the study of argumentation in medical consultation focus on the qualitative analysis of doctor-patient communication in order

11. The idea that a doctor should base his argumentation on rational, medical knowledge, while simultaneously striving to be persuasive resembles the pragma-dialectical concept of strategic maneuvering (van Eemeren, 2010).

to gain a deeper understanding of the interaction between doctors and their patients. Moreover, and in contrast to argumentation theoretical research, these analyses are merely descriptive in nature. That is, no precise normative account is provided as to how doctors and patients ideally should communicate and as to what constitutes a “rational” argument. As such, discourse analysts could benefit from insights gained in the field of argumentation theory. Notably, many authors point out the potential relevance of insights yielded by, i.e., conversation analysis and rhetorical analysis for the improvement of consultation outcomes. Feng, Bell, Jeran, and Kravitz (2011) provide a quantitative attempt at elucidating the effects of doctors’ attempt to persuade patients to follow a medical advice, but do not use a comprehensive theory of argumentation and, moreover, yield inconclusive results. Their findings, in the absence of other quantitative studies, justify the need for further research in this area.

2.3.3 Medical informatics: Argumentation to guide the design of intelligent systems

Medical informatics, a discipline on the intersection of computer sciences and health care, is concerned with optimizing, obtaining, storing, retrieving, and using information in the (bio-)medical context. It focuses on the development of computer-based tools and systems that can facilitate doctors and patients in the medical care process. In medical informatics, argumentation theoretical insights are used to aid the design of decision-support systems. In the context of doctor-patient interactions, such systems focus on doctors’ diagnostic reasoning and treatment decision-making. In contrast to studies originating from argumentation theory and discourse analysis, studies in medical informatics do not set out to *analyze* the argumentative discourse of doctors and patients. Instead they seek to *apply* knowledge from argumentation theory to improve clinical practice. Medical informatics, as a discipline, is thus primarily a practice-oriented field.

Studies that focus on the design of computer-based tools to aid doctor and patient during consultation are characteristically based on the Toulmin-model (1958) as well as insights gained in informal logic. Toulmin, going beyond a formal logical approach, starts from a practical definition of argumentation. He outlines an analytic model in which a successful argument consists of a claim that has been supported by sufficient backing. Informal logicians typically take their inspiration from the Toulmin model and focus in particular on reasoning in ordinary language. Thereby informal logicians explicitly move away from the formal criterion of deductive validity and argue for the context-dependency of the criteria for argument soundness (van Eemeren, 2009).

Upshur and Colak (2003) use the work of Toulmin (1958) and Walton (e.g., 1998) in their design of a tool for diagnostic reasoning. They show how Toulmin's diagrams can be effective in illustrating "the warrant establishing nature of research evidence in argumentation and in making explicit the relationship between claims, their evidential support and highlights the sources of conflicting evidence claims" (p. 294). Moreover, they claim that the pragmatic vision of the clinical encounter expressed in informal logic resonates with clinicians' experience as it places patient values, clinical experience, and clinical research on equal grounds (p. 296). A similar argument is made by Shankar, Tu, and Musen (2006). They illustrate how a computer-based tool can be used by doctors to retrieve up-to-date medical information as well as the necessary arguments to convince their patients of a medical diagnosis. As such, the tool can serve an educational as well as an explicatory purpose aiding both doctors and patients.

Dickinson (1998) proposes a practical theory of argumentation to inform the design of decision support tools. While he does not refer to Toulmin explicitly, Dickinson's theoretical model seems to draw primarily on the Toulminian perspective. Dickinson uses a hypothetical clinical scenario to elucidate the use of evidence in treatment decision-making to establish warrants that can be used to justify an inference

from data to conclusion (i.e., clinical claim). He argues that a structural model of argumentation has the potential to contribute to evidence-based medical practice and, moreover, to establish the criteria needed to assess decisional performance in medical consultation. Also Grasso, Cawsey, and Jones (2000) focus on treatment decision-making, but start from the dialogical context of conflict. That is, they propose a theory of informal argumentation to solve conflicts or disagreements between healthcare providers and receivers in the context of healthy nutrition. In doing so, they introduce a formal agent that is able to provide advice on the controversial subject of healthy eating behaviors by using dialectical argumentative tactics.

Despite the small number of contributions that focus specifically on the use of argumentation theories for the development of computer-based tools to facilitate the interaction between doctors and their patients, this line of research forms a favorable starting point for further integration of argumentation theory in the context of health. Going beyond the mere analysis of discourse, scholars in the field of medical informatics use insights from the field of argumentation theory to facilitate and improve the interaction between doctor and patient. Toulmin provides a functional model of argumentation that can guide medical informaticians in their endeavors. However, also other theories of argumentation should be considered. Whereas the Toulmin model does not give a definition of what constitutes a sufficient backing, the pragma-dialectical theory provides a model of argumentation that encompasses both normative and descriptive elements that can be used to determine argument reasonableness. Moreover, a dialectical approach to argumentation does more justice to the dialogical context of medical consultation.

2.3.4 Medical ethics: Argumentation as an ethical ideal

The contributions categorized under the heading of medical ethics at first glance seem to form a diverse group of publications in the field of medical philosophy, medical law, and medical decision-making. Yet, the articles all seek to explore the principles underlying treatment decision-making in the context of patient-centered medicine and are, consequently, all focused on the ethical concept of patient autonomy. The majority of articles focus specifically on the merits, limitations, and philosophical underpinnings of the shared decision-making model. In doing so, they address the inherent argumentative character of a shared decision-making procedure.

Exploring the limitations of three models of patient involvement – interpretative decision-making, shared decision-making, and informed decision-making – Wirtz, Cribb, and Barber (2006) argue that one of the main issues of contemporary decision-making models is formed by what they refer to as the “reasoning problem”. They note that there is a general absence of any detailed account of how doctor and patient should “embark on a deliberation that involves a discussion about values, preferences and beliefs and the making of a (sometimes) joint decision” (pp. 121-122). Instead, the process of doctor-patient dialogue and deliberation is described with short umbrella terms (i.e., *mutual discussion* and *negotiation*) that do not capture the actual process and that consequently obscure far more than that they clarify. The authors argue that models of participatory decision-making should be improved acknowledging this reasoning problem and disentangling the fuzzy concept of doctor-patient deliberation.

Sandman and Munthe (2010) aim to provide such an improvement of the shared decision-making model. They argue that ideally doctor and patient use a shared rational deliberative joint decision model in which all parties are given the opportunity to participate and express whatever they deem relevant. All parties should be open to the

other's interests and allow their own interests to be questioned. In doing so, the position of the party should not play a role. Moreover, all interests, goals, and reasons should be openly displayed and argued for. Savulescu and Momeyer (1997) and Walseth and Schei (2010) take a similar perspective, particularly emphasizing the importance of rationality in the discussion between doctor and patient.

Smith and Pettegrew (1986) as well focus on the ethical and philosophical starting points for shared decision-making to take place, but they take a rhetorical perspective. They use the distinction between rhetoric and sophistic to provide the basis for a model of mutual persuasion that enables free communication, but avoids manipulation. Following the authors, in such model mutual persuasion participants are allowed a free choice that is based in reasons and brought about by discourse. They take premises from each other's beliefs and values and accept "the ethical imperative of attempting to serve the ends of those beliefs and values" (p. 143).¹² Each should be open to persuasion by the other party. However, sheer manipulation should not be allowed.

The shared decision-making model has received considerable attention over the past decade and, ever since its introduction, scholars in the field of health communication have been concerned with its further development. Not only have researchers explored the practical relevance of the model, but they have also aimed to elaborate on the model's philosophical and ethical foundations. A number of conceptual papers have argued for the importance of rationality in treatment decision-making. To participate in the

12. Barilan and Weintraub (2001) even go further, arguing that "clinicians are morally obliged to make a strong effort to persuade patients to accept medical advice" and that the value of autonomy is "derived from the right persons to have respect, as agents who can argue, persuade and be persuaded in matters of utmost personal significance such as decisions about medical care" (p. 13).

decision-making process, patients should be enabled to engage in a critical discussion procedure with their doctors. In this procedure all perspectives should be taken into account and arguments should be weighed. Moreover, the discussants should refrain from techniques that could amount to a manipulation of the decision-making process.

Conceptualized as such, the shared decision-making model seems to closely resemble the pragma-dialectical ideal model of critical discussion. While in pragma-dialectics this resemblance has been acknowledged and explored (Snoeck Henkemans, 2011; Snoeck Henkemans and Mohammed, 2012), in medical ethics conceptual insights from argumentation theory have thus far been largely neglected. To create a solid normative framework for the interaction between doctors and patients, a collaboration between the two disciplines could be fruitful, particularly also in light of the potential practical applications of the shared decision-making model.

2.4 Limitations

The findings described in the previous sections provide a promising starting point for further research. However, before discussing the implications of these findings, some of the limitations of the study design should be considered. Even though it can be assumed that most important contributions that deal with argumentation (theory) in the context of doctor-patient consultation were retrieved using a search strategy in which a database search and an extensive manual search were combined, still some publications may have remained undetected in the search.¹³ Yet, due to the thoroughness of the search, it seems unlikely that these are contributions of high relevance.

¹³. The relatively small number of contributions in the field of medical informatics, particularly, may seem surprising. However, this may have to do with the fact that relatively few contributions focus on the doctor-

Moreover, as a result of the abstract and title analysis, articles containing only in-text reference to argumentation in medical consultation may have been missed. However, it was assumed that articles discussing the argumentative character of doctor-patient interaction in depth would report on this in the abstract or title. Moreover, the search for keywords in the abstract and titles only was a practical choice. It proved impossible to review all articles that fulfilled the search criteria starting from a full text search. By conducting an abstract-title search, the number of positive results due to the usage of academic jargon (*discussion, line of argument*) was minimized – even though a large number of abstracts still appeared to contain such jargon and was dismissed on the basis of this.¹⁴

2.5 Discussion and conclusion

The present study systematically explores and maps out the role that argumentative discourse so far has been attributed in the literature on doctor-patient consultation. The findings underscore that there is a growing interest in argumentative discourse in medical consultation and, moreover, elucidate that scientific contributions focusing on this topic essentially originate in four scientific domains: argumentation theory, discourse analysis, medical informatics, and medical ethics. While these domains are largely united in their view of doctor-patient interaction as an ideally rational and patient-centered discussion procedure, each of the four domains is characterized by

patient context specifically. Moreover, some contributions may have remained undetected as they were published in conference proceedings only.

14. The prevalence of academic jargon in the retrieved publications also accounts for the considerable ‘jump’ from 1330 contributions to only 46 retained articles after the first review round.

distinct research aims and objectives and, consequently, the theoretical frameworks and methods used.

The contributions from the field of argumentation theory are primarily focused on advancing a theoretical understanding of argumentative discourse. In doing so, they study argumentative discourse in the specific context of medical consultation. Yet, the insights gained in the field of argumentation theory could be valuable for researchers from the other disciplines as well. Argumentation theory not only offers a descriptive tool for the analysis of argumentation in medical context, but also a normative tool for the evaluation of its quality or *reasonableness* – this in contrast to most discourse analytic contributions that take a descriptive approach to the study of social interaction in medical consultation. The practice-oriented field of medical informatics, but also medical ethicists, could benefit from further integration of insights from contemporary argumentation theory into their own research. Simultaneously, aiming to situate their analyses in medical practice, argumentation theorists could profit from the empirically-based knowledge gained in the medical domains. Interdisciplinary collaborations could, thereby, contribute to closing the gap between the normative ideal and actual medical practice.

A question that thus far has remained unanswered is what the potential practical implications are of an interdisciplinary, theory-driven and empirically-oriented perspective to the study of argumentation in medical consultation. Put differently: to what extent can an argumentative approach contribute to the study and, ultimately the improvement of, of doctor-patient interaction? Noticeably, research that addresses argumentation in medical consultation has predominantly focused on theory-building and case-based analyses. Empirical investigations that explore the effects of argumentative discourse on the doctor-patient consultation are currently lacking. The contribution by Feng et al. (2011) forms a single exception. As such, also a conclusive

answer to the question posed in the title of this paper cannot yet be established. A possible explanation for the absence of empirical studies could be that recognition of the argumentative character of medical consultation is a relatively recent development. However, the pursuit of a more empirical line of research that explores the relationship between argumentative discourse and other characteristics of the medical consultation seems promising.

Various contributions included in this review have argued for the positive effect that argumentation may have on consultation outcomes such as adherence and satisfaction. Moreover, and despite not specifically focusing on the role of argumentation, Stewart et al. (1995; 2000) show correlations between patient-centered communication and patients' perceptions of finding common ground (i.e., agreement) as well as an association between their perception of agreement and health outcomes. In their meta-analysis of the effects of doctors' communication on patient adherence, Zolnieruk and DiMatteo (2009) report on similar results relating the quality of doctors' communication to patient adherence. Street, Makoul, Arora, and Epstein (2009), propose a pathway to improved health outcomes that relates doctors' and patients' ability to present their own views and understand the perspective of the other to, for instance, patient satisfaction and commitment to treatment. They argue that a pathway to better health requires a communicative encounter in which doctor and patient present and understand one another's perspective, find common ground, reconcile differences of opinion, and achieve consensus on treatment.

Starting from the above and following the suggestion by Street et al. (2009, p. 299) that studies should examine the relationship between specific communication behaviors and proximal and intermediate outcomes that can contribute to meaningful health outcomes, a tentative model concerning the role of argumentation in medical consultation can be drafted (see Figure 2).

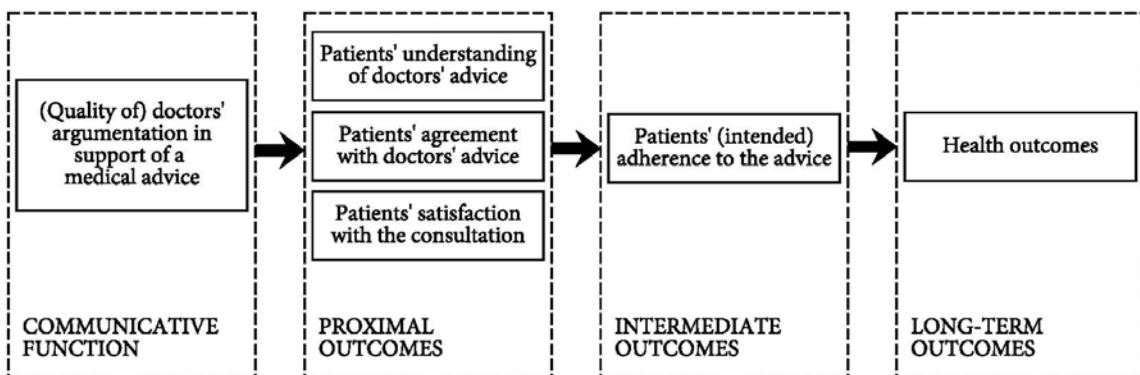


Figure 2. From argumentation to consultation outcomes – a tentative model

As a doctor's argumentation in support of his treatment advice can be seen to form an essential part of the communicative message in medical consultation, its quality can be assumed to influence the outcomes of consultation, affecting proximal outcomes such as patients' understanding of, and agreement with, the doctor's advice and their satisfaction with the consultation at large. These proximal outcomes in turn can be hypothesized to have positive effect on intermediate outcomes such as (intended) adherence and, potentially health outcomes. To operationalize the quality of doctors' argumentation, the pragma-dialectical theory of argumentation (van Eemeren & Grootendorst, 2004) seems to offer a solid theoretical foundation, providing a normative blueprint for reasonable and rational argumentative conduct that takes into account both context-independent and -dependent elements while simultaneously accounting for discussants' pursuit of rhetorical effectiveness. Moreover, the pragma-dialectical theory of argumentation seems to fit well within the ideal of shared decision-making.

Whether focusing on the advancement of theoretical knowledge of the argumentativeness of doctor-patient consultation, or using qualitative research methods to analyze single cases, or perhaps even exploring the causal relationship between doctors' argumentation and consultation outcomes, research that aims to integrate insights from argumentation theory into contemporary conceptions of doctor-patient communication

can only yield meaningful results when it combines a highly theory-driven approach with a solid (methodological) basis that is rooted in empirical reality. Moreover, such research seems most promising when scholars from the various scientific disciplines join forces.

Table 3.*Studies on argumentation in doctor-patient communication*

Study	Theoretical framework	Methodological approach	Proposals/findings
Category: Argumentation Theory (20)			
Bickenbach (2012)	Argumentation theory (general)	Reflective	Argumentation theory can shed new light on doctor-patient interaction within the context of informed consent.
Bigi (2011; 2012a; 2012b)	Informal logic, argumentum model of topics, model of communication context	Reflective, qualitative text analysis	Contextual factors (institutional, cultural) affect the soundness and persuasive strength of authority argumentation and other forms of argumentation in doctor-patient interaction.
Brashers et al. (2006)	Pragma-dialectical theory	Focus group interviews	Pragma-dialectics provides a starting point in understanding patients' self-advocacy strategies and for advancing patient education and empowerment.
Goodnight (2006)	Pragma-dialectical theory	Reflective	Pragma-dialectics offers a framework through which the ideal and practical norms of the deliberative character of doctor-patient consultation can be illustrated and evaluated.
Goodnight & Pilgram (2011); Pilgram (2009; 2011; 2012)	Pragma-dialectical theory	Qualitative text analysis	The institutional context of doctor-patient interaction affects the specific soundness criteria for doctors' strategic use of authority argumentation.
Labrie (2012)	Pragma-dialectical theory	Qualitative text analysis	Pragma-dialectics can shed new light on disagreement between doctors and patients and can provide a starting point for teaching doctors how to support their treatment advice.

Table 3.*Continued*

Study	Theoretical framework	Methodological approach	Proposals/findings
Rubinelli & Schulz (2006)	Pragma-dialectical theory, rhetorical theory	Qualitative text analysis	Doctors' argumentation strategies impact information transfer and decision-making. Systematic studies should determine the effects of such strategies on, e.g., adherence.
Rubinelli & Zanini (2012)	Argumentation theory (general)	Reflective	Training health professionals in argumentation theory can be beneficial for patients' involvement in the decision-making while at the same time preserving doctors' authority.
Schulz & Rubinelli (2006)	Pragma-dialectical theory	Qualitative text analysis	The concept of "strategic maneuvering" should be considered in the evaluation of doctor-patient argumentation. Moreover, the institutional context should be taken into account.
Schulz & Rubinelli (2008)	Pragma-dialectical theory	Reflective	Pragma-dialectics offers a model of critical discussion that can be used to identify good argumentative practices for doctors in light of obtaining informed consent.
Snoeck Henkemans (2011); Snoeck Henkemans & Moham-med (2012)	Pragma-dialectical theory	Qualitative text analysis	Adherence to the pragma-dialectical rules of a critical discussion seems instrumental for the process of shared decision making.

Table 3.*Continued*

Study	Theoretical framework	Methodological approach	Proposals/findings
Walton (1985)	Aristotelian practical reasoning	Reflective	A reasonable argumentative dialogue leads to informed consent on the part of the patients and to a mutual decision reflecting both medical standards and the patients' needs.
Zanini & Rubinelli (2012)	Pragmo-dialectical theory	Reflective	There is a need to focus on the development and testing of instruments to facilitate doctors' and patients' engagement in argumentation.
Category: Discourse Analysis (10)			
Ariss (2009)	Conversation analysis	Qualitative text analysis	Asymmetry of knowledge and authority between doctors and patients affects the extent to which patients engage in discussions with their doctors.
Aronsson & Sätterlund-Larsson (1987)	Politeness theory	Qualitative text analysis	Patients' unvoiced, 'polite' disagreement with their doctors can jeopardize patient participation in the medical decision-making process.
Drew et al. (2001)	Conversation analysis	Qualitative text analysis	Explicit provision of diagnostic evidence stimulates patients' involvement in treatment discussions, which can impact patients' understanding, adherence, and satisfaction.
Feng et al. (2011)	Integrated model of medical advising	Quantitative text analysis, survey research	Doctors' use of persuasive strategies pertaining to the four IMMA dimensions do not have any significant impact on patients' satisfaction or intended adherence.

Table 3.*Continued*

Study	Theoretical framework	Methodological approach	Proposals/findings
Knight & Sweeney (2007)	Rhetorical theory, logic, narrative analysis	Qualitative research interviews	Rhetorical analysis of argument structures can provide information about people's implicit conception of meaning. This can be useful in medical education research.
Peräkylä (1998)	Conversation analysis, theory of professional work	Qualitative and quantitative text analysis	By providing explicit evidence for their diagnoses, doctors treat themselves as accountable and thereby do not claim unconditional authority in relation to the patients.
Segal (1994); (2007); (2008)	Rhetorical theory	Reflective	Rhetorical theory can provide healthcare practitioners with insights concerning non-compliance as well as patients' conceptualization of illness through argumentation.
Steinhaug et al. (2011)	Part process analysis	Qualitative text analysis	When the doctor-patient relationship is characterized by recognition, disagreement is allowed and does not damage the relationship.
Category: Medical Informatics (4)			
Dickinson (1998)	Toulmin model*	Reflective	The structural model of argumentation can be used to inform the design of decision support tools and to establish criteria for assessing decisional performance.
Grasso et al. (2000)	New rhetoric, stages of change model, health belief model	System development	There is a need for expressing everyday arguments in advice giving systems and for the use of consolidated theories of informal argumentation which combine logic and dialectic.

Table 3.*Continued*

Study	Theoretical framework	Methodological approach	Proposals/findings
Shankar et al. (2006)	Toulmin model	System development	The WOZ system provides doctors access to evidence and information they can use to discuss recommendations with their patients. This can positively affect adherence.
Upshur & Colak (2003)	Toulmin model, Walton model	Reflective	Informal logic can make the role of evidence in clinical reasoning explicit and shed light on its dialogical context.
Category: Medical Ethics (6)			
Sandman & Munthe (2010)	Shared decision-making model	Reflective	Models of shared decision-making should include a shared process of reasoning. This is relevant in light of long-term adherence and satisfaction.
Barilan & Weintraub (2001)	Persuasion, patient autonomy	Reflective	Respect for patient autonomy requires doctors' communicative engagement about personal issues that is aimed at persuading patients to accept and comply with medical advice.
Savulescu & Momeyer (1997)	Patient autonomy, informed consent	Reflective	Doctors should assist patients to base their decisions in rational thinking and deliberation.
Smith & Pettegrew (1986)	Rhetorical theory, shared decision-making	Reflective	The distinction between rhetoric and sophistic can provide a basis for a model of mutual persuasion that goes beyond the provision of information and that avoids manipulation.

Table 3.*Continued*

Study	Theoretical framework	Methodological approach	Proposals/findings
Walseth & Schei (2011)	Habermas' theory of communicative action	Reflective	The argumentation process described by Habermas offers an explicit approach for doctors and patients to create common ground.
Wirtz et al. (2006)	Interpretative, shared, and informed decision-making models	Reflective	Models of participatory decision-making should be improved, acknowledging the 'reasoning problem' and disentangling the fuzzy concept of doctor-patient deliberation.

Note. Contributions that are highly similar with respect to their research aim, theoretical framework, methodology, and main findings are grouped together.

* No explicit reference to the Toulmin model is provided

Chapter III

Strategically creating common ground with patients in
treatment decision-making discussions

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Abstract

In this paper it is examined how doctors may strategically elicit concessions from their patients in order to create a favorable point of departure for the treatment decision-making discussion. Using the dialectical profile for establishing starting points in an argumentative discussion (van Eemeren, Houtlosser, & Snoeck Henkemans, 2007) as an analytic tool, an overview is provided of the different – analytically relevant – dialectical moves that doctors may make at the opening stage of the discussion and the possible subsequent dialectical pathways. Based on examples taken from actual consultation practice, each of these pathways is illustrated. Moreover, some of the strategic maneuvers doctors may deploy to start the critical resolution process in the most favorable way are identified, linking these maneuvers to the aims that are inherently embedded in the broader institutional context in which the discussion takes place.

Keywords

Doctor-patient consultation, treatment decision-making, pragma-dialectics, strategic maneuvering, dialectical profile, material starting points, concessions.

3.1 Introduction

In the past years, medical consultation has received considerable attention from argumentation scholars. In addition to the more traditional argumentative contexts, such as the political and judicial setting, recently also doctor-patient consultation has been described as a communicative *activity type* in which argumentative discourse plays an essential role (e.g., Bigi, 2012; van Eemeren, 2010; Labrie, 2012; Pilgram, 2009; Snoeck Henkemans & Mohammed, 2012). In particular contributions from the pragma-dialectical theory of argumentation (van Eemeren & Grootendorst, 1984, 1992; 2004) have added to this argumentative characterization of medical consultation by extensively investigating the institutional constraints and opportunities that shape the ways in which doctor and patient may argue in medical practice (Labrie & Schulz, 2013).

The pragma-dialectical theory of argumentation offers a stage-based ideal model of critical discussion that is both normative and descriptive in nature. On the one hand, the model serves as a blueprint of argumentative conduct, providing the criteria for a reasonable discussion on the merits.¹ On the other hand, the model can be used by the analyst to describe argumentative reality, using it as a grid of measurement. That is, argumentation in practice can be reconstructed and analyzed using the pragma-dialectical framework in order to assess the extent of reasonable conduct demonstrated by the participants in the discussion. The relatively recent addition of the concept of *strategic maneuvering* – a term that refers to arguers' balancing act between maintaining dialectical reasonableness while simultaneously striving for rhetorical effectiveness – and

1. For an overview of the rules for critical discussion as well as the argumentation stages distinguished in pragma-dialectics, see van Eemeren and Grootendorst (1984; 1992; 2004).

endeavors to situate such maneuvering within specific argumentative contexts have strengthened the usefulness of pragma-dialectics as a tool for the analysis of argumentative discourse in context (van Eemeren, 2010; van Eemeren & Garssen, 2012).

So far, contributions that take a pragma-dialectical approach to study doctor-patient communication have predominantly focused on doctors' – and, more specifically, general practitioners' – use of authority argumentation (Goodnight and Pilgram, 2011, Pilgram, 2011; 2012) and their strategic maneuvers in the context of the shared decision-making model (Labrie, 2012, Snoeck Henkemans and Mohammed, 2012). In this paper doctors' strategic maneuvering is studied in the light of shared decision-making in general practice as well. However, rather than providing a general overview of doctors' strategic maneuvers, more specifically it is explored how general practitioners may strategically elicit concessions from their patients during treatment decision-making discussions in order to create a favorable starting point for the discussion. Moreover, through examples from actual consultation practice it is analyzed how the ways in which doctors elicit these concessions are related to the broader institutional context in which the discussion takes place.

In order to do so, first a characterization is provided of medical consultation as a communicative activity in which argumentation inherently plays a role (Section 3.2). Subsequently, by introducing the dialectical profile for establishing starting points as a tool for the analysis of argumentative discourse (van Eemeren, Houtlosser, & Snoeck Henkemans, 2007, p. 90), it is explained what are the potential – analytically relevant – dialectical moves that doctors may make in order to create a common point of departure for the argumentative discussion (Section 3.3). Using different excerpts of consultation practice, then, some of the strategic maneuvers doctors may deploy to start the critical resolution process in the most favorable way are identified, linking these maneuvers to

the aims that are inherently embedded in the institutional context of medical consultation (Section 3.4).

3.2 Treatment decision-making as an argumentative discussion

In medical consultation, characteristically patients seek the medical advice of their doctor in order to solve a health related problem. Unfolding in a predictable five-phase sequence – consisting of the *opening, history-taking, physical examination, patient education and counseling* concerning diagnosis, treatment, and prevention, and finally the *closing* (Roter & Hall, 2006, p. 113) – the encounter between doctor and patient is organized as such that ultimately a decision about the patient's health situation is facilitated. That is, ideally at the end of the consultation a conclusion regarding treatment is reached. This may be the prescription of a medication (e.g., antibiotics) or an action or intervention plan (e.g., physiotherapy or quitting smoking), but also a decision regarding further examination (e.g., MRI-scan), a referral to another doctor (e.g., to a specialist or for a second opinion), the option to do nothing at all (e.g., waiting it out), or even a deferral of the treatment decision (e.g., to the next consultation).

Whereas traditional models of treatment decision-making start from the assumption that the doctor 'knows best' and takes up the role of the primary decision maker in medical consultation (paternalistic approach), contemporary ideal models of treatment decision-making increasingly focus on the patient's role in determining the treatment plan (patient-centered approach) (Elwyn, Edwards, & Kinnersley, 1999; Ong, de Haes, Hoos, & Lammes, 1995; Roter & Hall, 2006, pp. 23-27). While patient-centered models of doctor-patient interaction acknowledge the doctor's role as the medical expert, they simultaneously emphasize the patient's lay expertise. The patient is considered to be the direct source the doctor may tap for medical information regarding pain, symptoms,

and medical history. The patient is seen to hold valuable knowledge that is necessary for the doctor to establish a diagnosis and treatment plan. Moreover, patient-centered models underline the principle of patient autonomy – the right of competent adult patients to make the decisions about their medical care (Herring, 2009) – by encouraging doctors to elicit their patients' preferences and opinions throughout the consultation. In order to ensure that patients' final decisions are guided by medical evidence, in addition, doctors are obliged to provide their patients with all relevant information concerning the treatment options available and to ask their consent prior to taking action. This obligation is laid down in the legal and ethical doctrine of informed consent (Herring, 2009; Whitney, McGuire, & McCullough, 2003).

A patient-centered approach to treatment decision-making that has received particular attention is the shared decision-making model (e.g., Charles, Gafni, & Whelan, 1997; 1999; Charles, Whelan, Gafni, Willan, & Farrell, 2003; Edwards & Elwyn, 2009). Following the most cited conceptualization of shared decision-making, its practice can be defined as the “involvement of both the patient and the doctor, a sharing of information by both parties, both parties taking steps to build a consensus about the preferred treatment, and reaching an agreement about which treatment to implement” (Charles, Gafni, & Whelan, 1997). The shared decision-making model goes beyond patient-centered approaches that merely focus on informed consent as it defines treatment decision-making as a process and the ideal outcome of consultation as a treatment decision that is mutually shared by both doctor and patient (Frosch & Kaplan, 1999). This means that neither the doctor nor the patient acts as the sole decision-maker. Instead, doctor and patient are assumed to act as coequal partners that ideally collaborate in order to reach reasonable agreement on the best treatment option that is available to the patient.

The shared decision-making model describes an ideal discursive process between doctor and patient that resembles the pragma-dialectical ideal model of critical discussion in terms of its underlying conception of reasonableness. The shared decision-making model advocates a treatment decision-making process in which the viewpoints of both the doctor and the patient are explored and critically weighed in order to ultimately reach a joint decision. The model stipulates that the doctor – guided by the legal rule of informed consent – advances a rationale to support his evidence-based treatment advice.² If the patient openly doubts or disagrees with the doctor's treatment advice, for example on the basis of his personal values, beliefs, experiences, or expectations, he should provide the reasoning to substantiate his opposition. Therewith, the treatment decision-making process can be seen to take the form of an argumentative discussion: a treatment decision-making discussion.³ Sandman and Munthe (2010) summarize the argumentative character of medical consultation aimed at shared decision-making as follows:⁴

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2. Evidence-based medicine is the practice of health care in which the practitioner systematically retrieves, appraises, and uses the most current and valid research findings as a basis for clinical decisions and advice (Bensing, 2000).
 3. This paper focuses on discussions that are aimed at reaching a treatment decision. This does not mean that all standpoints and arguments in these discussions necessarily need to relate *directly* to treatment. Within a treatment decision-making discussion it may, for example, be necessary or instrumental to first establish the diagnosis – or any other form of common ground – before embarking on the discussion about the treatment itself.
 4. Sandman and Munthe (2010) distinguish between different subtypes of shared decision-making in each of which the (argumentative) role division between doctor and patient is different. The definition of shared

Health care professionals, in the process of seeking informed consent, have reason to enter a rational discussion with patients. The decision of the patient should be as rational as possible, in order for the patient to be as autonomous as possible. At the same time, the professional should represent the values of medicine and argue for the most rational option based on these values. [In case of] conflict, the professional [should] enter into a process of argument, where those considerations valued highly by the patient are compared to the considerations of relevance from the values of medicine. [...] It is about working together in order to find a consensus on what is the most rational or well-founded decision. (Sandman & Munthe, 2010, pp. 77-78).

When analyzing the shared treatment decision-making process between doctor and patient as an argumentative discussion, knowledge of the broader institutionalized context can provide significant insight for the evaluation of the argumentative exchanges that occur in medical consultation. Context-dependent characteristics can pose constraints on, and provide opportunities for, the ways in which doctors and patients argue and maneuver strategically. In medical consultation, such strategic maneuvering amounts to doctors' and patients' efforts to reconcile their mutual objective of resolving the difference of opinion maintaining dialectical standards of reasonableness with their individual rhetorical aims to resolve the treatment decision-making discussion in their own favor. Their strategic maneuvering manifests itself in the choices that are made from

decision-making as used in this paper corresponds best with the model described by the authors as *Shared Rational Deliberative Joint Decision*.

the ‘topical potential’ that is available at a certain stage of the discussion, in the adaptation of the argumentative moves to the demands of the audience, and the purposive use of presentational devices (van Eemeren, 2010). Contextual rules and conventions may require a necessary deviation from the standard ideal procedure of a critical discussion and may give rise to specific forms of strategic maneuvering (Snoeck Henkemans & Mohammed, 2012). Although medical consultation as an argumentative activity type has been discussed extensively in other contributions (Labrie, 2012; Pilgram, 2009; Snoeck Henkemans & Mohammed, 2012), a number of its characteristics that affect treatment decision-making discussions are also worthwhile to be pointed out here.

While doctor and patient are presumed to act as coequal partners in the treatment decision-making discussion, as a result of institutionalized conventions both parties generally take up particular roles during medical consultation. Due to the implicit rules of the communicative context, the doctor typically takes up the role of the leader of the discussion, a discussion that normally takes place in the doctor’s office. Additionally, the discussion is usually constrained by a pre-fixed timeframe.⁵ Such institutional conventions may have an effect on the argumentative exchange in medical consultation.

5. A cross-sectional study by Deveugele, Derese, van den Brink-Muinen, Bensing, & De Maeseneer (2002), in which consultation length is compared for six European countries (Belgium, Germany, Netherlands, Spain, Switzerland, and United Kingdom), shows an overall mean consultation length of 10.7 minutes. However, consultation length seems to vary across countries. In the Netherlands and the United Kingdom, where the examples in the present paper originate, the average consultation lengths are 10.2 and 9.4 minutes, respectively (Deveugele, Derese, van den Brink-Muinen, Bensing, & De Maeseneer, 2002, Table 4). Most important, however, is that regardless of its exact duration, a consultation is marked by a clear beginning and end. The latter being the result of the doctor’s pressure to see multiple patients in a limited amount of time.

Although they do not necessarily pose a problem for the discussants to fulfill their dialectical requirements, they can create a tension between the parties' argumentative goals and their institutional obligations or objectives. For example, due to time pressure the doctor may present certain premises as if they are shared *prima facie*. This can be considered a strategic choice from an argumentative point of view. However, if the premises in fact are not shared by the patient, the doctor risks violating the institutional requirement of informed consent and, therewith, his *institutional burden of proof*. This requirement is described by Snoeck Henkemans and Mohammed (2012, p. 29) as the doctor's institutional obligation during medical consultation to anticipate the emergence of a difference of opinion and to justify his point of view in order to allow the patient to make an informed decision about treatment.

Lastly, a characteristic that should be emphasized is the right for all competent adult patients to make the final decisions regarding their treatment. Although this does not mean that the patient may demand inappropriate treatment, it does imply that the patient always holds the right to decide between equally relevant treatment options and to choose the option that is at odds with the doctor's advice. Taking a pragma-dialectical perspective, this implies that the patient at all times can reasonably end the discussion in a settlement. "Just like the institutional burden of proof, this legal right can be considered a commonly accepted procedural starting point that needs to be observed by the patients and the doctors" (Snoeck Henkemans and Mohammed, 2012, p. 29) – even though in such case one can no longer speak of a true, mutually shared decision.⁶

6. A distinction should be made between *resolving* and *settling* a difference of opinion. While the former implies that a joint conclusion is reached regarding the acceptability of the standpoint at issue on the basis

3.3 Dialectical profile for establishing the material starting point of a treatment discussion

When engaging in a treatment decision-making discussion that is aimed at reaching a shared resolution, from an argumentative perspective doctor and patient should be able to build forth on at least a number of commonly shared starting points that they share at the opening stage of the argumentative discussion (van Eemeren and Grootendorst, 1992).⁷ These starting points may include facts (*Antibiotics do not affect viruses*), suppositions (*The patient's sore throat is probably caused by a virus*), truths (*The patient has a sore throat*), and personal as well as institutional values (*Sharing treatment decisions with patients is important*), norms (*Doctors should not prescribe a drug when this is not medically appropriate*), and value hierarchies (*Patient autonomy should be respected over the doctor's preferences*). A distinction should be made between material and procedural starting points. Whereas procedural starting points regard the rules and norms concerning their argumentative conduct in the discussion – including context-dependent norms such as the institutionalized burden of proof – material starting points refer to the premises that may be built upon during the discussion (van Eemeren, 2010). The commonly shared starting points can be viewed as ‘concessions’, made by both

of a regulated and unhindered exchange of arguments and criticism, the latter refers to a situation in which the parties decide to end the discussion (van Eemeren and Grootendorst, 2004, p. 58).

7. The term opening stage as used here, in argumentation theoretical sense, should not be confused with the opening phase of the medical consultation as discussed in Section 3.2. Whereas the former refers to an analytic stage within a critical discussion, the latter refers to a section at the beginning of any medical consultation that typically includes, among others, a greeting sequence.

parties, that together constitute the material point of departure for the discussion. In this paper the focus will be on material starting points.

Following the pragma-dialectical theory of argumentation, a proposition that has been accepted as a starting point for the treatment decision-making discussion by both the doctor and the patient cannot be retracted or called into question for the remainder of the discussion (van Eemeren & Grootendorst, 1992). After all, if the discussion parties were enabled to call an established starting point into question again at any given time during the discussion, the resolution-oriented character of the critical discussion would be compromised and the argumentative exchange could become paralyzed.⁸ In pragma-dialectics, falsely denying that something is an accepted starting point is considered a fallacious move of argumentation - a form of argumentation that hinders the resolution process. Similarly, also falsely presenting something as an accepted starting point which in fact is not constitutes a fallacy: an unreasonable discussion move. In argumentative reality the establishment of starting points remains often largely implicit as, from a practical point-of-view, explicitly and exhaustively discussing all potentially relevant propositions in order to establish the starting points for the discussion would be unfeasible. As a result, in treatment decision-making discussions, doctor and patient at

8. This does not mean that accepted starting points can never be called into question again. Preventing discussants to do so would be in violation of the pragma-dialectical Freedom Rule, which stipulates that parties cannot prevent each other from advancing standpoints or casting doubt on standpoints. In medical consultation, moreover, this would violate the patient's institutional right to be informed. However, when an accepted starting point is called into question at a later stage of the discussion, the proposition loses its status as a starting point and becomes a standpoint within a new (sub-)discussion (van Eemeren & Grootendorst, 1992).

times need to make certain assumptions about what their interlocutors' starting points are.

In order to better understand how in treatment decision-making discussions doctors and patients may, explicitly or implicitly, establish the shared point of departure of their argumentative discussion, creating a dialectical profile can be useful. Such dialectical profile can be used as a tool in order to map out the potential, analytically relevant dialectical moves parties may make at the opening stage of the critical discussion and shed light on the opportunities for strategic maneuvering the arguers can deploy to steer the discussion in their advantage (van Eemeren, Houtlosser, & Snoeck Henkemans, 2008). A distinction should be made between analytically relevant moves and the moves that arguers actually perform in real argumentative exchanges (Mohammed, 2008). Analytically relevant moves are those moves that are potentially relevant at a certain stage of the discussion for the resolution of the difference of opinion at hand. They are part of the ideal model of the critical resolution process. In contrast, argumentative moves that arguers in real argumentative exchanges perform are part of an actual discussion procedure that may deviate from the ideal. Mohammed (2008) labels such moves concrete argumentative moves.

In Figure 3 an overview of the dialectical core profile for establishing starting points as formulated by van Eemeren, Houtlosser, and Snoeck Henkemans (2007, p. 90) can be found. In line with the main purpose of this paper, it is assumed that the doctor (D) proposes a starting point to the patient (P) to be accepted into their shared set of starting points. As shown in Figure 3, once the doctor has advanced a proposal to accept proposition X as a shared starting point for the discussion (turn 1), the patient can analytically respond by either accepting the proposal or by rejecting it (turn 2). When the patient accepts the proposal, he may either do so right away, or impose restrictions on his acceptance by accepting the proposal only under the provision that another

proposition, Y, is also added to the participants' shared set of starting points. By doing so, the patient poses restrictions on the argumentative use that the doctor may make of proposition X to support his standpoint during the argumentation stage. When the patient rejects the doctor's proposal to add proposition X to their shared set of starting points, the doctor may accept this rejection or ask for clarification (turn 3), followed by a sub-discussion (turn 4). When the patient accepts the doctor's suggestion to add proposition X to their shared starting points under the provision that proposition Y is included as well, the doctor may respond in various ways (turn 3). First, he may immediately accept the patient's proposal without further ado. But the doctor may also reject the patient's suggestion to include proposition Y. Such rejection is then followed by a similar path of possible moves as the one followed by the participants subsequent to the patient's rejection to accept the doctor's initial proposal.

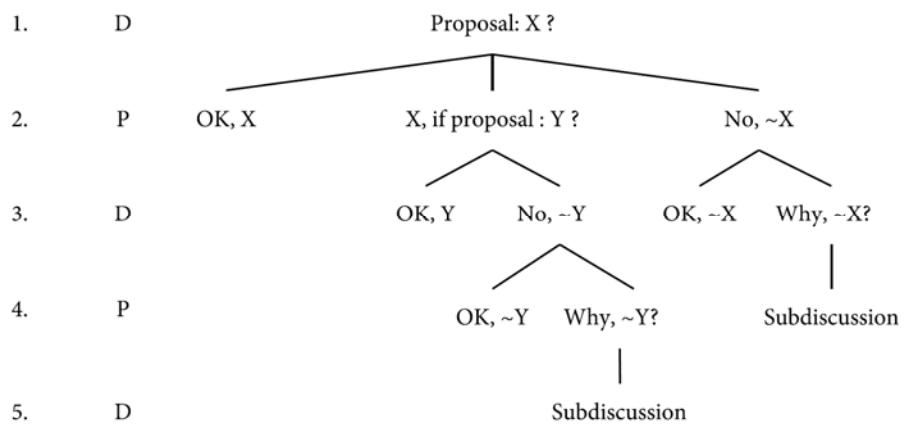


Figure 3. Dialectical core profile for establishing starting points (van Eemeren, Houtlosser, & Snoeck Henkemans, 2007, p. 90)

3.4 Strategically eliciting concessions from patients

In the previous sections, it has been outlined which role argumentation plays in the context of treatment decision-making and how doctors and patients can establish a joint point of departure for their treatment discussion during the opening stage. The core dialectical profile for adding a proposition to the shared set of starting points was introduced as an analytic tool. In the following, using the dialectical core profile as a guideline, it will be illustrated how doctors in medical consultation practice may strive to add a proposition to the common set of starting points and, in the process, maneuver strategically in order to achieve their dialectical goals (establishing a *common* point of departure) and rhetorical aims (establishing a *favorable* point of departure). In doing so, the different possible pathways as mapped out in the dialectical core profile will be addressed. Yet, more importantly, it will be shown how the doctors' strategic maneuvers – and in turn their patients' responses – are inherently connected to the argumentative context of (shared) treatment decision-making. The examples presented all concern extracts from general consultation practice and were taken from the video database belonging to the Netherlands Institute for Health Services Research and from two cases collected and first studied by Elwyn, Gwyn, Edwards, and Grol (1999).

3.4.1 Proposal and acceptance of a proposition as a starting point for discussion of treatment

A proposal to accept a certain proposition as a starting point for further discussion rarely happens in a direct and explicit way. Also in medical consultation, it seems unlikely that the doctor puts forward a direct request such as *Hereby I request you to accept P as a starting point for the discussion about your treatment*. Rather, proposals to add a proposition to the shared set of starting points occur implicitly or indirectly so. Striving

for both dialectical and rhetorical success, the doctor may, for example, ask whether the patient agrees that something is the case, or attribute a certain starting point to the patient by means of a rhetorical question or by advancing a proposition in the form of an assertion in which acceptance of the starting point is suggested or assumed.

In example (1), the doctor proposes a diagnostic starting point (*You have a tonsillitis*) to be accepted by the patient in their discussion concerning antibiotics as a method of treatment for what is presumed to be a viral upper respiratory tract infection.⁹ The doctor, who opposes treatment with antibiotics, strategically proposes this proposition indirectly in the form of an assertion (*You are right to call it a tonsillitis*) in which the patient's acceptance of the starting point is already implied.

Doctor: You're right to call [what you have] a tonsillitis cause that's just a Latin name for a sore throat.

Patient: Right

In phrasing his utterance, the doctor seems to suggest that the patient herself referred to her condition as a tonsillitis – something that, in fact, she never did. With this simultaneous topical and presentational choice, the doctor can be seen to strategically add a proposition to the common set of starting points, efficiently managing the time

9. This example was taken from the 'Tracey' case, which was collected and first presented by Elwyn, Gwyn, Edwards, and Grol (1999) and subsequently analyzed using pragma-dialectical conventions by Labrie (2012). The full transcript describes a consultation between the mother of a young child that is suffering from repeated sore throats, and their family doctor – who is known to favor shared decision-making. Also examples (2) and (3) were taken from the Tracey case.

and simultaneously appealing to the patient's expertise and knowledge in the discussion.¹⁰ By explaining the term tonsillitis as a Latin name the doctor also emphasizes his own role as the medical expert in the discussion. In response to the doctor's proposition, the patient immediately advances a token of acceptance (*Right*). Such acceptance markers are a relatively common way for patients to signal listening and show agreement during consultation (Stivers, 2002, p. 1118). From an argumentative perspective, these markers of acceptance imply that the proposition advanced (*You have a tonsillitis*) cannot be retracted by the patient at a later stage of the discussion without engaging in a new (sub-)discussion concerning this proposition (van Eemeren & Grootendorst, 1992).

In example (2), which was taken from the same case, the doctor – in his attempt to convince the patient that antibiotics are not the preferred treatment method – implicitly proposes the proposition (*The tonsillitis is caused by repeated viruses*) to be accepted as a common starting point. He does this by means of asking a question to which the interrogative tag *right* is added.

Doctor: It's probably caused by repeated viruses, right?

Patient: Right

10. Lewis (1979) states that "if at time *t* something is said that requires presupposition *P* to be acceptable, and if *P* is not presupposed just before *t*, then – *ceteris paribus* and within certain limits – presupposition *P* comes into existence at *t*. In example (1), the doctor can be seen to strategically exploit this "rule of accommodation for presupposition" (von Fintel, 2008).

The use of a question-answer format is typical for medical consultation and for the history and examination phase in particular (Stivers and Heritage, 2001, p. 152). Taking into account the limited time available, the doctor strives to efficiently add propositions to the shared set of premises that together constitute the starting point for his medical advice (or standpoint) and the treatment discussion and, thereby, maintain a balance between his dialectical and rhetorical goals. Moreover, presenting his proposition using a question rather than a mere statement, the doctor also facilitates patient participation: The patient is offered a – albeit minimal – possibility to counter the doctor's views. This is reinforced by the use of the adverb *probably*, which mediates the force of the doctor's proposition and underlines that his viewpoint is based in a medical likelihood rather than an absolute truth. Thereby, the power of the doctor's expert role is alleviated (Caffi, 1999, Labrie, 2012, p. 186). Also in this example, the patient accepts the doctor's proposition using the listening and acceptance token *right*, thereby widening their zone of agreement.

3.4.2 Proposal and provisional acceptance of a proposition as a starting point for discussion of treatment

In examples (1) and (2), the diagnostic propositions proposed by the doctor are immediately accepted by the patient, without hesitation. In example (3), an excerpt belonging to the same consultation, the doctor proposes a proposition as a starting point for the discussion regarding treatment as well. However, here, the doctor's proposal concerning a treatment characteristic is not immediately accepted by the patient. She only provisionally accepts the doctor's suggestion that the proposition *Antibiotics do not work for viruses* belongs to the shared set of starting points. While the doctor strategically presents the proposition as already accepted by putting forward the utterance *I'm sure you know*, the patient only wants to accept this proposition if the doctor accepts her

proposition that *Antibiotics do affect a high temperature*. The doctor does not accept this proposition and a sub-discussion follows in which he, assuming the patient's doubt, provides additional argumentation to support his claim that *It [Tracey's infection] will not respond to antibiotics*.

Doctor: I'm sure you know that antibiotics don't do a dickie bird for
[viruses]

Patient: Right, the trouble is [... it affects her high temperature]

Doctor: [...] The best guess we can do is that it won't respond to antibiotics. It will just take its time and get better. Some people like to have a course of antibiotics, because they feel it makes a difference, but the science on this is a bit 50/50: sometimes it does, sometimes it doesn't. And as you've probably heard from the papers people are a bit wary of giving antibiotics.

Patient: That's right, yes.

While the doctor's utterance I'm sure you know argumentatively serves to strategically add a proposition to the common set of starting points, it simultaneously can be seen to serve as an expression that attributes medical knowledge to the patient. Thereby, the doctor strives to achieve both his dialectical and rhetorical goals. The doctor's presentational use of best guess in his second turn shows that – again – his proposition is based on a medical likelihood rather than absolute certainty (Caffi, 1999; Labrie, 2012). Thereby, the doctor leaves the opportunity open for the patient to reject his proposition.

Accepting a proposition only under the condition that another proposition is added to the shared set of starting points can be seen as a relatively indirect way for a patient to oppose the doctor. Rather than rejecting a proposition completely, a less face-

threatening argumentative path is chosen. In the context of treatment decision-making this is a tactic that can be employed by patients to avoid imposing a politeness threat on the relationship between doctor and patient. Also in example (4), a patient's tentative acceptance of the doctor's proposition seems to serve – at least partially – the purpose of politeness.¹¹

Doctor: [...] the advice is still to be careful [sterilizing someone before thirty] and to wait that first period, right, so a month or six, before you make any decisions. Decisions cannot be reversed.

Patient: No, I know. But I've always thought I only want two [children].
And not more.

Doctor: But you don't know what might happen, right? Something might happen to Faith. Anything can happen right? Do you understand that?

Patient: Yes, alright, but yes. Yes, ok.

In this example, a general practitioner is presented with a 24-year-old mother of two, who requests sterilization as a form of birth control. The doctor takes the standpoint that sterilization is not the preferred preventive method before the age of thirty and within six months after childbirth. To support his standpoint, the doctor proposes the starting point *Decisions cannot be reversed* in order to subsequently use this as an argument. This

11. Example (4) was collected using the, 2007-2008 video-database of the NIVEL Institute in August, 2011. Also examples (5), (7), and (8) are excerpts of consultations belonging to this database. All transcriptions and translations from Dutch were done by the author.

proposal can be viewed as a strategic selection from the topical potential as well as an adaptation to the particular audience's demand. The patient responds conditionally to the proposition with a marker of agreement (*No, I know*) that is immediately followed by another proposal for a starting point (*I do not want more than two children*). The patient's counter-proposal is indicted by the marker but and is noticeable for its cautious presentation: the mother has always thought she does not want more children. By introducing this proposition, the woman seems to dissociate herself from being in a situation in which a reversal of the decision would be necessary. She already has two children, so she will not regret sterilization, she seems to argue. This proposition is neither explicitly accepted nor rejected by the doctor, plausibly because the patient's statement concerns her 'inner thoughts'. However, the doctor seems to reject the patient's proposition as a sufficient argument to support the patient's view that she will not regret sterilization and proposes a new starting point: *something might happen to your child*. The doctor, with this topical choice, appeals to the mother's fear of losing a child and the risk – when sterilized – of not being able to have another child. This proposition is accepted hesitatingly by the patient (*Yes, alright, but yes*), which in turn leads to the acceptance (*Yes, ok*) of the overarching standpoint of the doctor. The patient ultimately leaves the consultation with an information leaflet about other possible forms of contraception.

Example (4) provides a perfect illustration of how in medical consultation complex argumentative content and complicated argumentative structures can go hand in hand. The issue of sterilization in a young woman is medically and ethically difficult as the procedure is irreversible and indeed could lead to feelings of regret later in life. At the same time, however, the woman holds the right to decide over her own body when it comes to a preventive measure such as birth control. In example (5), taken from a general practice consultation in which a mother requests a doctor's statement to account

for her son's knee problem at school, again a tentative acceptance of the proposition (*Providing a statement breaches confidentiality*) as a shared starting point is shown.¹²

- Doctor:** [...] we cannot provide any statements, as we are of course dealing with confidentiality.
- Patient:** No, of course not. But then at least a proof that he has been here.
- Doctor:** [I will] type up the consultation.

This example shows how – in making a strategic selection of the topical potential – the doctor may use the legal rules pertaining to the medical context as starting points for the discussion. The doctor presents his proposition in the form of an indirect assertion in which acceptance of the starting point is already suggested through his presentational use of *of course*. He uses the presumed starting point as an argument to support his standpoint *I cannot provide a statement*. The patient accepts the proposition saying *No, of course not*, suggesting that the doctor's proposition is not only accepted but would also form sufficient support for the standpoint, given that she would be requesting a

12. It could be argued that the proposition *We are dealing with confidentiality* in fact concerns the proposal of a procedural rather than a material starting point, as the doctor refers in his statement to one of the particular, procedural rules for discussion that apply in the context of consultation: confidentiality (doctors' obligation to maintain confidentiality is probably the most well-known ethical and legal rule of medical consultation, a rule which was already included in the original Hippocratic oath). However, as the doctor in example (5) does not advance his proposition in order to explicitly establish the 'code of conduct' for the argumentative discussion (i.e., *how* the discussion is going to be conducted) but rather aims to use his statement as a building block in his argumentation to support his claim *I cannot write a statement*, the doctor's proposition is analyzed here as a material starting point.

statement. However, immediately after, the mother strategically dissociates between the doctor providing a *statement* and a *proof* suggesting she needs the latter. Thereby, the mother indirectly proposes the additional starting point that *Providing a proof does not breach confidentiality*. In doing so, the mother suggests that she is prepared to accept the doctor's proposition (X) as a starting point for the discussion on the condition that the doctor will do something in return: adopt her proposition (Y). Van Eemeren, Houtlosser, and Snoeck Henkemans (2007) state that "there can be all kinds of reasons why the acceptance of Y by [the doctor] would be expedient for [the mother], the most obvious reason being that [the mother] can use Y to overrule – or at least neutralize – the argumentative use the doctor can make of X". In example (5), indeed the doctor accepts the mother's proposition by suggesting to type up the consultation, implying that his proposition has been overruled as a sufficient argument.

3.4.3 Proposal and rejection of a proposition as a starting point for discussion of treatment

Direct rejection of a proposal to add a certain proposition to the shared set of starting points seems to be a relatively rare phenomenon. An explanation could be that a direct rejection of a doctor's request to accept a starting point for the discussion would pose a politeness threat to the doctor-patient relationship. Aronsson and Sätterlund-Larsson (1987) show that patients' disagreement can infringe on politeness principles in medical consultations. Along similar lines, Robins and Wolf (1988) argue that patients' refusals of proposed treatment regimens pose a face-threatening situation for the doctor-patient interaction. Direct rejections of proposed starting points do occur in the history and examination phase, in which the doctor uses a question-and-answer format to elicit concessions from the patient that may serve as a basis for the diagnosis and, in turn, the

treatment decision-making discussion. As a result, in these phases, direct rejections should generally not pose a politeness threat.

Example (6) illustrates how a doctor, inquiring about a young patient's symptoms accompanying his flu, can indirectly propose a starting point (*You have diarrhea*) that he may use at a later stage of the discussion to – implicitly or explicitly so – support his diagnosis (*Your flu is not caused by a bacterial infection*) and treatment advice (*You should not be treated with antibiotics*).¹³ The doctor's dialectical goal of adding a proposition to the shared set of starting points is facilitated by presenting the proposition in the form of a question – a rhetorically efficient tactic. If the patient does not exhibit the proposed symptoms under question, as is the case in example (6), immediate rejection may follow without putting politeness at risk.

Doctor: Any diarrhea?

Patient: No diarrhea at all.

Also example (7) shows an explicit rejection by the patient of a starting point (*Smoking three packs of tobacco is a lot*) proposed by the doctor in support of the standpoint that quitting smoking would improve her older, male patient's lifestyle. Aiming to quickly and easily prompt a dialectical concession from the patient in her own favor, the doctor strategically presents the proposition in the form of a rhetorical question. According to van Eemeren, Houtlosser, and Snoeck Henkemans (2008, p. 484) "asking a rhetorical question is a quite common means of proposing to adopt a proposition as a starting

13. This example was taken from Elwyn, Gwyn, Edwards, and Grol (1999) (the 'Ali' case) and was analyzed more extensively and in light of the overall consultation in Labrie (2012).

point". Ainsworth-Vaughn (1994, pp. 210-211) argue that doctors frequently employ rhetorical questions in consultation to strategically mitigate their authority role and to indirectly voice criticism or commands. The ambiguity created by the rhetorical question-format permits the doctor to express criticism in the context of cooperation. Also here, the rhetorical question seems to reduce the effect of the doctor's underlying criticism that smoking three packs of tobacco is a lot. Additionally, the tag *isn't it* gives the doctor's utterance the character of stating the obvious or 'asking for the sake of asking' (van Eemeren, Houtlosser, & Snoeck Henkemans, 2007, p. 96). Yet, even though using a mitigating *think*, the patient responds with an overt rejection that immediately ends their discussion on the topic.

Doctor: Three packs of tobacco. That is quite a lot, isn't it?

Patient: [...] I don't think so.

Lastly, also example (8) shows a patient's explicit rejection of a proposed starting point (*Communication is important*) that is advanced by the doctor in the opening phase of the consultation. The doctor and the patient discuss the relevance of communication within the treatment decision-making process. Although the proposition that is put forward in this example is not directly connected to a standpoint concerning the treatment advice itself, this attempt to elicit a material starting point nicely illustrates that in the specific context of medical consultation the popular conception that 'communication is key' is not undisputedly accepted by all participants.

Doctor: [Communication] is important

Patient: I think it is all overrated. First, it is a fact that every doctor has his

own way of communicating. And every patient has his own views on what he likes, needs, doesn't like, and doesn't need.

While the doctor in this example, arguing that the patient should fill out a survey on doctor-patient communication, seems to assume the patient's acceptance of the starting point, the patient disagrees strongly (*I think it is all overrated*, note also here the mitigating use of *think*) with the doctor's assertion. Assuming the doctor's subsequent request for clarification, the patient immediately opens the sub-discussion, but does not find the doctor willing to respond. Doctor and patient open the treatment decision-making discussion, but the doctor's initial proposition that *communication is important* is not added to the discussants' shared set of starting points.

3.5 Conclusion and implications

The question that was posed at the beginning of this paper was how doctors may strategically elicit concessions from their patients during treatment decision-making discussions in order to create a favorable point of departure for the discussion. Moreover, it was asked how the ways in which the doctors elicit these concessions are related to the institutionalized context of treatment decision-making. It was not aimed to provide an exhaustive list of all possible strategic maneuvers doctors may employ. Rather, using the core dialectical profile for adding a proposition to the shared set of starting points (see van Eemeren, Houtlosser, & Snoeck Henkemans, 2007, p. 90), an attempt was made to give an overview of the different, analytically relevant dialectical moves that doctors may make creating a common point of departure for the argumentative discussion and the possible subsequent dialectical pathways. Providing examples taken from actual consultation practice, each of the possible paths was

illustrated and the examples were analyzed in light of the strategic maneuvers employed by the doctor. By making use of the dialectical profile for establishing starting points to analyze doctors' strategic maneuvering, this paper takes a novel approach to the study of medical argumentation.¹⁴

Analysis of the examples shows that doctors can use different ways to indirectly request the acceptance of a proposed starting point for the discussion. The indirect request may, for example, take the form of a (rhetorical) question to which an interrogative tag is added or the form of an assertion in which the acceptance of the starting point is suggested or implied (e.g., by adding phrases such as *I'm sure you know* or adverbs like *of course*). Both asking for the patient's explicit acceptance with a starting point and merely assuming agreement should be regarded as strategic ways for the doctor to establish a favorable point of departure for the discussion. Without engaging in further sub-discussion concerning each proposition – something that would be aside from undesirable also practically infeasible – the doctor efficiently and quickly elicits concessions from the patient that together can form the basis for further argumentation. Thereby, the doctor can simultaneously achieve his dialectical and rhetorical goals in the consultation.

Additionally, careful examination of the consultation excerpts also illustrates that the ways in which doctors strategically attempt to elicit concessions from their patients are indeed inherently connected to the context of treatment decision-making itself. For example, doctors' maneuvers can be the result of institutional practices. Think of the

14. While dialectical profiles of the confrontation stage have been used to analyze argumentative discourse in the political realm, so far there are no studies that report on the use of a dialectical profile for establishing starting points (opening stage) to analyze the strategic maneuvering of discussants in the medical context.

question-answer format that is typical for both the history-taking and examination phase and is designed to make sufficient use of the limited timeframe. In other instances, the maneuvering is the result of the complex content of the medical consultation itself. In treatment decision-making discussions regularly complex topics are discussed that require doctors' caution or sensitivity while presenting his arguments. Again in other situations doctors may adhere in their maneuvering to the ideal of patient participation and the patient's right to take part in the decision-making process – a right that is also advocated by the shared decision-making model – by referring or appealing to the patient as a knowledgeable expert or, for example, presenting evidence as medical probabilities rather than undisputed facts. Lastly, doctors may also refer – explicitly or implicitly – to the legal and ethical rules underlying the treatment decision-making process such as doctor-patient confidentiality, patient autonomy, and informed consent.

The findings from the present study provide a stepping-stone for further – qualitative as well as quantitative – research into the use of argumentative discourse in the context of doctor-patient consultation. Due to the institutional context, doctors are required to efficiently and quickly establish a point of departure for the treatment discussion that is ideally based in medical evidence and that simultaneously does justice to the ideal of patient participation. As discussion leaders and medical experts, it is within doctors' role to maintain a balance between the normative ideals of evidence-based and participatory medicine. The examples presented in this paper indicate that doctors, at least in part, may do so by maneuvering strategically.

Chapter IV

Quantifying doctors' argumentation in general practice
consultation through content analysis: Measurement
development and preliminary results

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Abstract

General practice consultation has often been characterized by pragma-dialecticians as an argumentative activity type. These characterizations are typically derived from theoretical insights and qualitative analyses. Yet, descriptions that are based on quantitative data are thus far lacking. This paper provides a detailed account of the development of an instrument to guide the quantitative analysis of argumentation in doctor-patient consultation. It describes the implementation and preliminary results of a content analysis of seventy videotaped medical consultations of which the extent and type of doctors' argumentative support for medical opinions and advice are analyzed. Based on the study results, this paper addresses the merits of observational studies using content analysis as a method for the analysis of argumentative discourse in context as well as some of its key challenges and limitations, laying bare the opportunities for future research.

Keywords

General practice consultation, argumentative activity type, pragma-dialectical theory of argumentation, quantitative methods, content analysis

4.1 Introduction

While qualitative approaches to the study of argumentation are typically characterized by in-depth analyses of argumentative discourse in its natural setting aimed at providing interpretative meaning to the subject of research, quantitative methods are characteristically used to draw valid and objective inferences about the subject on the basis of reliable and generalizable sets of data. That is, while qualitative research generally aims to provide interpretation and meaning, quantitative research, by producing counts and measures, aspires to predict, explain, and understand. In the study of argumentation in context, qualitative approaches are very common. Pragma-dialecticians, in particular, have provided thorough and theoretically grounded analyses of different argumentative moves in a variety of cases and a wide range of discussion contexts.¹ Quantitative analyses based on pragma-dialectics, however, seem to be less widespread.² Yet, such analyses could provide substantial insight for the study of argumentation in context, as they could shed light on, for example, the extent to which certain communicative contexts are argumentative, the frequency with which certain argumentative phenomena occur in practice, the conditions under which they occur, and the consequences their occurrence may have for the discussion.

1. For an overview of the various applications of the pragma-dialectical theory to the study of argumentation in context, see van Eemeren (2012).

2. This does not imply that the pragma-dialectical framework has not been instrumental in quantitative empirical research at all. Rather than providing a practical tool to the analyst of argumentation, however, these quantitative studies focus primarily on the ways in which ordinary arguers identify and assess specific argumentative moves in practice.

This paper proposes content analysis as a rigorous method for the quantitative study of argumentation in context and general practice consultation more specifically. In doing so, this paper provides a detailed description of the development of a valid and reliable measurement instrument to guide the quantitative analysis of doctors' argumentation in support of their medical opinions and advice in light of the dialogical discussion context. Moreover, it describes the preliminary results of an analysis of seventy videotaped medical consultations in which the instrument was used. Rather than focusing on a specific feature of argumentation, a helicopter-view is adopted in order to generate a broad but comprehensive description of general practice consultation. Thereby, this paper aims to demonstrate how observational studies using content analysis can add to current, qualitative endeavors to characterize general practice consultation as an argumentative activity type and how such studies may provide a starting point for further in-depth analyses of specific argumentative features of medical consultation. In addition to discussing the merits of content analysis as a method for the analysis of argumentative discourse in practice, some of its limitations and challenges are elaborated on, laying bare the opportunities for further research.

4.2 Methodology

4.2.1 *Content analysis*

Content analysis as a method can be briefly defined as the systematic and quantitative analysis of messages and their characteristics within the broader communicative context they occur in. That is, content analysis, as a research technique, aims to objectively summarize "what is said on a given subject in a given place at a given time" in order to ultimately arrive at generalizable conclusions (Lasswell, Lerner, & Pool, 1952, p. 34). In doing so, content analysis relies on the scientific method, including attention to

objectivity-intersubjectivity, a-priori design, reliability, validity, generalizability, replicability, and hypothesis testing (Neuendorf, 2002, p. 10). Content analysis is not restricted to the types of variables that may be measured or the contexts that may be examined. Moreover, it allows for a theory-driven approach. As such, it provides an appropriate method for analysts of argumentative discourse who want to examine data from a quantitative perspective, with the intention to both describe a specific set of texts (e.g., belonging to a particular communicative activity type) and to test hypotheses concerning message characteristics.

Conducting a content analysis, researchers use two principal instruments of measurement. In the *codebook* all variables of interest are specified and careful instructions are provided as to the ways in which the coders may code these variables while analyzing the messages under study. Thereby, the codebook forms the point of reference for the coders throughout their analyses. All message codes are recorded on a *coding sheet*. The coding sheet can thus be seen to fulfill a purpose similar to that of a questionnaire in survey research. In a content analysis, the variables of interest may pertain to different levels of analysis. When studying videotaped interactions between general practitioners and their patients, the content analyst may, for instance, be interested in variables that belong to the level of the consultation at large, such as the practitioner's age or gender. In addition, the analyst may focus on variables that concern what is being said by doctor and patient during the consultation on a statement level. A statement can be broadly defined as something that is said, a unit of meaning, or – more precise – the definite or clear expression of an idea or an opinion. An example of such a statement is a medical opinion or advice advanced by the doctor concerning a diagnosis, prognosis, treatment, or prevention plan (i.e., an *advice statement*). An elaborate description of the specific variables and measures used in this study can be found in Section 2.4.

4.2.2 *Sample*

The sample in this study consisted of a random sub-set of seventy videos that were drawn from a database containing in total 808 Dutch general practice consultations that were recorded as part of a large-scale study into doctor-patient communication at the Netherlands Institute for Health Services Research in, 2007-2008 (Bekker-Grob, van Dulmen, van den Berg, Verheij, & Slobbe, 2011; Noordman, Verhaak, & van Dulmen, 2010; Noordman, Koopmans, Korevaar, van der Weijden, & van Dulmen, 2012). The recordings were made with an unmanned camera on weekdays among forty general practitioners – all members of the Netherlands Information Network of General Practice – and were believed to reflect Dutch general practice consultation.³ The practitioners were found to be representative of Dutch general practitioners in gender, practice form, and number of days worked. However, they appeared to be on average four years older than the average Dutch general practitioner. In total, 77.6% of the patients agreed to participate. The non-responders were slightly older and more often male (Noordman et al., 2012). Both the general practitioners and the patients signed an informed consent form prior to recording. However, neither general practitioners nor patients were aware of the specific topics of interest to the researchers (Bekker-Grob et al., 2011).

4.2.3 *Procedures*

Data collection and analysis were preceded by an extensive development phase in which the codebook and a digital coding sheet were developed. As the instruments had to be

3. A sample of 93 general practitioners was drawn from the Netherlands Information Network of General Practice, a representative network of 84 general practices and more than 330.000 patients. Forty GPs (44%) from twenty practices agreed to participate in the video observation study (Bekker-Grob et al., 2011; Noordman et al., 2010, 2012).

firmly rooted in theory as well as practical in use, they were revised in a number of rounds until acceptable first versions were created.⁴ In order to enhance the validity and reliability of the study, an extensive training session was subsequently carried out in which two coders took part. The codebook and coding sheet were elaborately discussed by the two coders and carefully adapted where deemed incomplete or unclear at face value. To familiarize themselves with the coding procedures and measurements used as well as to further improve the coding instruments, both coders additionally analyzed a number of pre-selected videos and audio-files.⁵ Taking into account the problems encountered by the coders during trial coding, the codebook and coding sheet were revised once more.

In a pilot study, subsequently, a random sample of eight videos was analyzed by each of the two coders individually. Reliability statistics were calculated on each of the variables, using Krippendorff's alpha, Cohen's kappa, percentage agreement, and intra-class correlation coefficients where applicable. The results were carefully examined and discussed among the coders. Variables were revised, repaired, or even removed from the codebook if necessary. Revisions included, for instance, reformulating instructions, variables, and codes as well as adding, deleting, and restructuring the coding categories. All variables that did not meet the reliability criterion of Krippendorff's $\alpha \geq .80$ or higher in the first pilot test were re-examined in a second round of coding, in which an additional four, randomly drawn, videos were individually analyzed by both coders. Upon completion of the second pilot test, again reliability statistics were calculated and

4. The codebook and coding sheet are available upon request.

5. In this phase, both coders practiced with the OPTION-instrument – one of the measurements included in the codebook - using the official training pack and audio-tapes provided by Elwyn, Edwards, Wensing, Hood, Atwell, and Groll (2005).

the results on all variables were – despite some minor reservations – deemed reliable enough to proceed to the actual coding phase. The results of the reliability testing procedures will be more elaborately discussed in Section 2.6.

To guide the coding phase, the two coders were each randomly assigned to a unique set of videos for coding.⁶ There was no pre-fixed coding order for the videos. The codebook provided guidance to the coders concerning the coding sequence for the different variables. Throughout the data collection phase the coders discussed their individual analyses and results in order to enhance the inter-subjectivity of their interpretations and avoid divergence from the codebook. Finally, both coders independently analyzed a random sub-set of eight videos to allow for a reliability figure to be calculated for each of the variables under study upon completion of the data collection.⁷ Data analysis was performed using the statistical package SPSS, 20.⁸

6. At the start of the study, three unique sets of videos were randomly drawn from the main database. Each set consisted of fifty videos for coding, taking into account the possibility of damaged or otherwise unusable video files. The two coders were each randomly assigned one set of videos. The third set was used for the pilot study. Coders were allowed to freely determine the order in which they coded the videos. From each of the coders' sets a random sub-sample of ten videos was drawn for reliability testing.

7. Neuendorf (2002) recommends a random sub-sample of at least 10% to be drawn to determine the inter-rater reliability of the overall study. In this case, the sub-set of 8 videos together constitutes 11.4% of the overall sample.

8. In order to calculate Krippendorff's alpha, use was made of a SPSS macro developed and freely distributed by Hayes and Krippendorff (2007).

4.2.4 Measures

The final version of the codebook contained both consultation level variables and advice statement level variables. The consultation level variables were intended to measure a variety of constructs and characteristics pertaining to the consultation at large. Among these variables were formal and technical variables concerning the video files and coding itself, variables related to both doctor and patient characteristics, and variables regarding the doctor's communication style. The advice statement level variables pertained to the argumentative elements, or units of meaning, of the interaction between the general practitioner and the patient throughout the consultation, starting from the doctor's medical opinion or advice (i.e., *standpoint*), and were all conceptualized on the basis of the pragma-dialectical theory of argumentation (van Eemeren & Grootendorst, 1984; 1992; 2004). In contrast to the consultation level variables, which had to be recorded only once per video-file, advice statement level variables had to be completed for each medical standpoint put forward by the doctor during the consultation. Both the consultation level variables and the advice statement level variables will be discussed more elaborately below.

Consultation level variables

Video coding – The technical variables pertaining to the coding of the video files were added mainly for purposes of coder and consultation identification and included: coder initials, video file name, date of recording, and date coded. In addition, coders were asked to note down the length of each consultation, rounding off by half a minute precisely.

Doctor characteristics – Coders were asked to identify the doctor's gender as well as to report or estimate the doctor's age. The coding options for the age variable consisted of

three groups, representing ‘young’, ‘experienced’, and ‘senior’ doctors (‘younger than 40’, ‘between 40 and 60’, and ‘older than 60’) as well as a category ‘unable to determine’). Coders were instructed to opt for the ‘younger’ category in case of doubt and to use the ‘unable to determine’ category only when the doctor was not visible in the video.

Patient characteristics – Coders were also asked to record the patient’s gender and estimate or report the patient’s age. The categories for the age variable differed slightly from the doctors’ age variable, as patients – in contrast to doctors – can be of all ages. Therefore, five coding possibilities were offered (‘younger than, 20’, ‘between, 20 and 40’, ‘between 40 and 60’, ‘between 60 and 80’, and ‘older than 80’) as well as the option ‘unable to determine’. Again, coders were instructed to only use the last option in those cases where the patient was not visible and to opt for the ‘younger’ alternative in case of doubt.

An additional item concerned the patient’s company during the consultation. This item was included to determine who precisely made up the discussion parties in medical consultation. Six coding possibilities were included: ‘not accompanied by another person’, ‘accompanied by parent(s)’, ‘accompanied by child(ren)’, ‘accompanied by partner/friend(s)’, ‘accompanied by unidentified other’, and ‘accompanied by identified other’. In case of the last option, coders were asked to provide the identity of the person accompanying the patient.

Finally, to assess patients’ motivations in the interaction with their doctors, an item was included asking for the patient’s main explicit expectations of the medical consultation. The coders were instructed to code the patient’s expectations on the basis of the patient’s (indirect) questions, requests, and other verbal cues throughout the consultation. The coding sheet allowed for the coders to identify multiple patient expectations within one consultation. The categories – the result of a number of revision rounds in the pilot phase – included the patient’s expectation of a(n): ‘problem

identification', 'advice or information about treatment' or 'prevention' or 'prognosis', 'specific action pertaining to a medication' or 'an examination' or 'a referral to a specialist' or 'a referral for a second opinion'. Finally, a category 'other' was included in which coders were allowed to specify any expectation observed that could not be headed under any of the other categories.

Communication style – In order to code the doctor's perceived communication style, use was made of the validated, twelve-item OPTION-scale developed by Elwyn, Edwards, Hood, Robling, Wensing, and Groll (2003). Using this scale, it was aimed to measure the extent to which the doctor involves the patient in the treatment decision-making process. Each of the twelve items had to be scored by the coders on a five-point Likert-scale, where a '0' indicated that the behavior described in the item was not observed and '4' denoted that the behavior was observed and executed to a high standard. On the basis of the summed items, a total OPTION-score could be calculated ranging between '0' and '100', where '0' indicated 'least involvement' and '100' pointed to 'most involvement' of the patient in the decision-making process.

A second measurement of doctor's communication and decision-making style was included in the codebook. A tool developed by Degner and Sloan (1992) to evaluate patients' preferences to participate in treatment decision-making was adapted to measure coders' perception of the doctor's communication style.⁹ This resulted in a five-point Likert-scale ranging from '1', the doctor prefers to leave the final decision regarding treatment to the patient, to '5', The doctor prefers to make the final decision regarding

9. While the original instrument intends to measure patients' self-reported preferences in treatment decision-making, the adapted version was aimed at capturing doctors' preferences from an observer perspective. The adapted tool was used before by Labrie, Schulz, and Zurbriggen (under review).

treatment, with ‘3’ denoting that the doctor prefers to share with the patient the responsibility of deciding which treatment is best.

Advice statement level variables

Doctor’s standpoint – Doctors’ argumentative support for a medical opinion or treatment advice was conceptualized to form part of a dialectical, and analytically sequential, exchange between doctor and patient that can be reconstructed to start from the doctor’s advancement or adoption of a standpoint. A standpoint was defined as the doctor’s expression of a medical point-of-view or position that institutionally requires argumentative support, for example as a result of the legal rule of informed consent (Herring, 2009). Coders were, therefore, instructed to first identify each standpoint advanced or adopted by the doctor throughout the consultation and categorize these standpoints in accordance with their propositional content following a pre-defined coding scheme.

The coding scheme distinguished between five main categories: standpoints pertaining to (1) ‘diagnosis’ (e.g., *I think your sore throat is caused by a virus*), (2) ‘treatment advice’ (e.g., *I suggest that you take acetaminophen*), (3) ‘prognosis’ (e.g., *In my opinion your ankle needs a week’s rest*), (4) ‘prevention’ (e.g., *You should quit smoking*), and (5) ‘other’. Each of the categories was sub-divided retaining a residual main category as shown at the end of this Chapter. No distinction was made between positively formulated standpoints (e.g., *I recommend antibiotics*) and negatively formulated standpoints (e.g., *I do not recommend antibiotics*). The adoption of a standpoint was distinguished from the mere provision of information on the basis of signal expressions and cues from the discussion context (e.g., *I advise you to, I am of the*

*opinion that, I think that, therefore, it's a good idea to).*¹⁰ Examples of such expressions and cues were provided in the codebook to guide the coders.

Standpoint explicitness – Upon identification of a standpoint, coders were asked to record whether the standpoint was explicitly voiced or whether the standpoint had to be deducted from the argumentative context and thus remained implicit in the dialogue. In doing so, a strict distinction was made between standpoint implicitness on the one hand and standpoint indirectness on the other: while implicit standpoints were conceptualized as those standpoints that had to be inferred from the surrounding arguments and were thus not ‘voiced’ as such, indirect standpoints were defined as those standpoints that were voiced, albeit in a more or less concealed way, for example in the form of a question. Coders were asked to focus on standpoint explicitness only and to code whether they had to infer the standpoint from the arguments advanced or whether the doctor actually voiced the standpoint. As such, indirect standpoints had to be coded as explicit standpoints.

Patient's position – Once the coders detected a standpoint, they were instructed to record several elements of the subsequent argumentative discussion between the doctor and the patient. First, coders were asked to report the patient's position with regard to the doctor's standpoint. Three coding possibilities were offered: the patient (1) ‘disagrees with the doctor's standpoint’, (2) ‘has doubts about the doctor's standpoint’, or (3) ‘agrees with the doctor's standpoint’.¹¹ Coders were instructed to infer the patient's

10. For more examples of such signal expressions, see van Eemeren, Houtlosser, and Snoeck Henkemans (2007).

11. Following pragma-dialectical conventions, a dialogical situation in which the patient ‘disagrees with the doctor's standpoint’ is characterized as a mixed difference of opinion. When the patient ‘has doubts about the doctor's standpoint’ the difference of opinion is defined as non-mixed (cf. van Eemeren &

position from verbal expressions and indicators in the discussion. Examples were provided in the codebook to guide the coders in their analyses (i.e., for disagreement: *I don't agree, I was actually thinking something different*; for doubt: *Are you sure?, really?*; for agreement: *I think so too*, or simple back channel responses such as *yes* unless preceded or followed by a sequence clearly indicating the contrary).¹²

Doctor's provision of argumentative support – Subsequently, coders were asked to describe the doctor's argumentative support for his standpoint using five different codes: (1) 'provides argumentation to support the advice in *anticipation* of the patient's position', (2) 'provides argumentation to support the advice in *reaction* to the patient's position', (3) 'provides argumentation to support the advice, both in anticipation and in reaction to the patient's position', (4) 'invites the patient to provide argumentation', and (5) 'maintains the standpoint without further argumentation'.

Type of argumentative support – In the next step, coders were instructed to categorize the various arguments supporting a standpoint. The coding sheet allowed the coders to indicate the number of arguments provided for each of fourteen categories of argument. The categories of argumentative support were defined according to their schematic

Grootendorst, 1984; 1992; 2004). Due to the institutional conventions of general practice consultation, a doctor should always assume that the patient may silently disagree with, or have doubts about, his medical opinion or advice. As a result, such medical opinion or advice should be reconstructed as a standpoint. However, the patient may also immediately 'agree with the doctor's standpoint', rendering further discussion unnecessary.

12. While a back channel response such as *yes* can also be interpreted as a mere listening token, argumentatively affirmative responses like these can be seen to commit the patient to agreement to the doctor's standpoint. In contrast, an interrogative *yes?* can also serve as an indicator of doubt. Coders were therefore asked to make use of contextual cues to guide their coding decisions.

make-up, using the pragma-dialectical distinction between 'symptomatic argumentation', 'causal argumentation', and 'analogy argumentation' (van Eemeren & Grootendorst, 1992; 2004). Each of these three schematic types was subdivided into multiple categories, focusing on the propositional content of the arguments. In the design phase of the study, an initial list of argument categories was compiled on the basis of the examination of a variety of (excerpts of) general practice transcriptions and videotaped consultations. As the list of categories was aimed to be exhaustive and mutually exclusive, the list was revised until deemed complete during the pilot-phase of the study. The categorization can be found in the appendix. To enable a post-hoc, qualitative control of the categorizations, the coders were asked to write out the arguments and their codes in a separate column of the coding sheet.

Agreement – Finally, coders were asked to specify whether ultimately, at the end of the consultation, agreement was reached between doctor and patient concerning the doctor's initial standpoint. Four coding possibilities were offered: (1) 'the patient agrees with the doctor's initial standpoint', (2) 'the doctor agrees with the patient's initial counter-standpoint', (3) 'they reach agreement, but neither in favor of the doctor nor the patient's initial standpoint', or (4) 'no agreement is reached'.

4.2.5 Validity

The validity and reliability of the instruments used in this content analysis were assured in a number of ways. In order to ensure that the research design would ultimately allow for generalizable conclusions to be drawn, attention was paid to both the internal and external validity of the measurements. First, and foremost, the development of the codebook was strongly rooted in theory. Because the central aim of this study was to design an instrument to guide the quantitative, pragma-dialectical analysis of argumentative discourse, this comprehensive theory also formed the central framework

for the development of the measurements. By doing so, it was aimed to capture the full domain of argumentative behaviors that exist in general practice consultation (content validity). Although the doctor's provision of argumentation formed the main focal point of this study, the patient's response to the doctor's standpoint was measured as well. Thereby, it was aimed to do justice to the inherent dialogical aspect of an argumentative discussion.

Second, to ensure that the items included in the codebook in fact measured what was intended to be measured at face value (face validity), all items were elaborately discussed with an independent, leading expert in the field of pragma-dialectics and the study of argumentation in context. As a result, small modifications were made to the codebook. The majority of these changes concerned minor reformulations of items and instructions. Subsequently, and prior to the study's pilot phase, the coders engaged in an extensive discussion about the measures and instructions in the codebook. As such it was assessed to what extent the items and their instructions were clear to the coders and whether the categories were mutually exclusive, exhaustive, and semantically unambiguous. The instrument was adapted accordingly, reformulating, restructuring, adding, and deleting categories where necessary. The study's criterion validity was not assessed in the present study.

In order to maximize the external validity of the study and make sure that the findings could be validly generalized to the overall population of Dutch general practitioners, use was made of a representative and random sample of videotaped consultations between general practitioners and their patients. The observational method used in this content analysis matched the study purpose closely. While observations were made of real, 'true to life' medical consultations, the collection of data by means of an unmanned camera prevented the intrusive presence of the observers as well as camera operators in the actual consultations. As such, the analysts could provide a realistic image

of the consultations (ecological validity), with minimal disruptions of the normal conversation between doctor and patient.

4.2.6 Pilot and study reliability

While the majority of variables included in the codebook yielded reliable results already during the first pilot round, a small number of other variables did not. In Table 4 an overview can be found of all reliability figures. On the consultation level, the original item measuring patients' observed expectations of the consultation did not produce reliable results among the coders (α : .52, κ : .52, 88%). Upon careful scrutiny of the item categories and the coders' interpretation of these categories, it appeared that the categories were understood differently by the coders and, moreover, not deemed mutually exclusive. The categories were restructured and simplified. As a result, in the second pilot study highly reliable results were achieved on this item (α : 1.00, κ : 1.00, 100%).

On the advice statement level too, a number of items proved unreliable during the pilot study. While raters agreed on the categorization of the doctors' standpoints (α : .92, κ : .92, 92.6%), they were not unanimous in their identification of the standpoints in the first pilot round; a negative relationship was even detected (α : -.10, κ : -.09, 79.4%). Negative α and κ values suggest that disagreements between coders are systematic and, therefore, greater than what can be expected based on chance (Krippendorff, 2004). However, the low number of overall cases in the pilot study may have made a small number of disagreements seem systematic, while in fact they were not. Nevertheless, the coders elaborately discussed these findings and clarified the coding objectives. In the second round, as a result, they achieved highly reliable results.

Table 4.*Inter-rater reliability of the coded variables*

Variables		Pilot Reliability ^a				Study Reliability			
		α	κ	%	ICC	α	κ	%	ICC
DC1	<i>Doctor's gender</i>	1.00	1.00	100	-	1.00	1.00	100	-
DC2	<i>Doctor's age</i>	1.00	-	100	-	1.00	-	100	-
PC1	<i>Patient's gender</i>	1.00	1.00	100	-	1.00	1.00	100	-
PC2	<i>Patient's age</i>	.85	-	75	-	.84	-	87.5	-
PC3	<i>Accompanying persons</i>	1.00	1.00	100	-	1.00	1.00	100	-
PC4	<i>Patient expectations</i>	1.00	1.00	100	-	.87	.88	95.6	-
OP	<i>OPTION</i>	-	-	-	.86	-	-	-	.71
PP1	<i>Doctor's communication style</i>	.91	-	62.5	.94	.73	-	87.5	.74
DA ^b	<i>Standpoint identification</i>	-	-	94.4	-	-	-	97.1	-
DA1	<i>Advice standpoint</i>	.92	.92	92.6	-	.92	.92	93.9	-
DA2	<i>Standpoint explicitness</i>	.45	.43	88.2	-	.97	.97	94.1	-
AD1	<i>Patient's position</i>	.57	.57	70.6	-	.55	.55	84.8	-
AD1 ^c	<i>Patient's position (binary)</i>	.61	.61	82.4	-	.53	.52	84.8	-
AD2	<i>Doctor's argumentative support</i>	.54	.53	64.7	-	.54	.53	69.7	-
AD2 ^c	<i>Doctor's argumentative support (binary)</i>	.92	.92	96.3	-	.91	.90	97	-
AD3	<i>Type of argumentative support</i>	.85	-	93	-	.75	-	95	-
AD4 ^b	<i>Agreement</i>	1.00	1.00	100	-	-	-	97	-

Notes:

^a Upon completion of the second pilot. Figures for AD3 concern the full pilot sample of twelve videos.

^b α and κ not calculable as (one of the coders') variable is a constant.

^c Recoded variable.

The item measuring standpoint explicitness appeared to cause some coding problems as well. It proved difficult for the coders to distinguish between explicitness and implicitness on the one hand, and directness and indirectness on the other hand. Even after an additional training session and the second pilot round, reliability statistics remained low on this item (α : .45, κ : .43, 88.2%). Yet, because Cohen's kappa still pointed at 'moderate' agreement, it was decided to retain the item. Upon completion of the study, post-hoc reliability statistics revealed that overall reliable results were achieved on this variable.

Furthermore, the item measuring the patient's position towards the doctor's standpoint provided coding difficulties during the pilot study. This had been anticipated by the researchers, as this item involved a relatively high level of abstraction and interpretation compared to more straightforward variables such as participants' gender and age. After the first pilot round, the item was discussed among the coders and revised where necessary. Additional examples were added to the codebook to facilitate the analysis. Yet even after the second pilot round, reliability statistics remained low to moderate (α : .57, κ : .57, 70.6%). Post-hoc reliability analyses revealed a similar pattern (α : .55, κ : .55, 84.8%). Therefore, caution interpreting the result relating to this variable was advised. Recoding the variable into binary categories ('doubt or disagreement' and 'agreement') did not yield any different results (pilot: α : .61, κ : .61, 82.4%; study: α : .53, κ : .52, 84.8%)

Furthermore, the item aimed at capturing doctor's argumentative support for the standpoint yielded only tentative inter-rater agreement during the pilot study (α : .54, κ : .53, 64.7%). In this instance too, some problems had been anticipated. It was foreseen that the distinction between doctor's argumentation in *anticipation* of the patient's position and doctor's argumentation in *reaction* to the patient's position could potentially cause difficulties, as the coding depended on the coders' judgment of the

exact manifestation of the patient's position towards the doctor's standpoint. Indeed, when recoded into binary categories: 'provides argumentation' and 'does not provide argumentation', the results appeared to be reliable across coders ($\alpha: .92$, $\kappa: .92$, 96.3%). Therefore, the item was maintained. Similar results were found in the post-hoc analyses (five categories: $\alpha: .54$, $\kappa: .53$, 69.7%; binary categories: $\alpha: .91$, $\kappa: .90$, 97%). As such, results based on the original variable, containing five categories, should be interpreted cautiously.

4.3 Results

4.3.1 General characterization of general practice consultation

The seventy consultations analyzed were on average 10.8 minutes long (range: 3.5-26, $SD = 4.72$). This is consistent with earlier findings on the average duration of general practice consultation in the Netherlands (Deveugele, Derese, van den Brink-Muinen, Bensing, & De Maeseneer, 2002). In total, 34 different doctors were included in the random sample. The majority of the doctors were male (61.8%) and estimated by the coders to be between forty and sixty years old (88.2%). 52.9% of the patients were male. In 35.7% of all videos, the patients were not visible and it was consequently impossible to estimate their age. Of those patients visible on camera, 28.9% was estimated to be younger than twenty years old, 13.3% between twenty and forty years old, 24.4% between forty and sixty years old, 31.1% between sixty and eighty years old, and 2.2% older than eighty years old. 77.1% of the patients visited their general practitioner alone, 14.3% of all patients were accompanied by a (grand)parent, and 8.6% were accompanied by a partner. The patients accompanied by a (grand)parent were, without exception, younger than twenty years old.

Most often, patients appeared to expect their doctor to *identify* the nature of their health-related problem: in 74.3% of the consultations. This is not surprising, as problem identification can be seen as one of the central purposes of medical consultation. Additionally, in 21.4% of the consultations the patient explicitly expected some form of advice. Sometimes, patients also explicitly expressed an expectation or desire for a specific action, such as a specific medicine (in 12.9% of the consultations), a specific exam (10%), or a referral to a specialist (5.7%). Other expectations of the consultation included meeting the doctor for an intake interview, discussing test results, and receiving communicative care.

On average, doctors were not perceived to involve their patients in the decision-making process (100-point OPTION-scale: mean = 14.02, range 2.08-43.75, $SD = 7.59$). These results are similar to those found by Elwyn et al., (2003) in developing the scale. Furthermore, doctors were perceived to want to make all final decisions regarding treatment, taking their patients' viewpoints only moderately into account (5-point Degner & Sloan-scale: mean = 4.34, range 1-5, $SD = .98$).

4.3.2 Argumentative characterization of general practice consultation

The content analysis showed that in 94.3% of all consultations the doctor advanced one or more standpoints. The large majority of the standpoints pertained to either a diagnostic viewpoint (24.1%) or a treatment advice (68.6%). Treatment-related standpoints concerned medication advice (40.4%), general treatment advice (15.9%), a referral (14.6%), examination (13.2%), a deferral of the decision (9.9%), taking no action (4%), and a second opinion (2%). On average 3.14 standpoints were advanced per consultation (range: 0-8, $SD = 1.82$). One-way analysis of variance did not reveal a significant relationship between the number of standpoints advanced per consultation and the doctor's and the patient's gender or age. In addition, Pearson's product-moment

coefficient did not show a correlation between the number of standpoints advanced per consultation and the doctor's perceived patient-involvement and decision-making style or visit duration.

Relatively few standpoints advanced by the doctors met with their patients' explicit disagreement. In only 14.2% of all cases, the patient showed disagreement openly. Patients expressed their doubts about their doctor's standpoints in 24.7% of all cases. In the majority of cases, 61.2%, patients immediately agreed with their doctor's standpoint. 79.9% of all standpoints advanced by the doctor were supported by one or more arguments. On average 1.65 arguments supported a standpoint (range 0-16, $SD = 1.77$). Chi-square tests revealed a significant association between the patient's position towards the standpoint (binary) and the doctor's advancement of arguments to support a standpoint ($\chi^2(3, N = 219) = 92.76, p \leq .001$).¹³ In line with what could be expected based on the pragma-dialectical theory (construct validity), the doctor more often advanced argumentation when the patient expressed disagreement or doubt than when the patient agreed with the doctor's standpoint. In case of patients' agreement, the doctor's argumentation often preceded the patient's explicit reaction (54.5% of all cases) or there was no argumentation at all (26.1%). There appeared to be no significant relationship between the doctor's provision of argumentation and the propositional content of the standpoint.

All arguments advanced by the doctors were categorized according to (1) their schematic make-up and (2) their propositional content. 86% of all arguments belonged to a symptomatic argument scheme, 2.2% to an analogy scheme, and 11.8% to a causal

13. To calculate this, the binary items to measure the patient's position and the doctor's advancement of argumentation were used.

scheme. In Table 5 an overview can be found of the prevalence of the various argument categories, based on their schematic make-up and propositional content.

Notably, 95.9% of all standpoints advanced by the doctors were accepted by the patients at the end of the consultation and chi-square tests showed no correlation between the doctor's advancement of arguments and final acceptance. In only 1.4% of the cases in which the doctor advanced a standpoint, the patient's initial counter-standpoint was accepted by the doctor. In 0.9% of the cases, doctor and patient

Table 5.
Prevalence of the argument types

Schematic make-up	Propositional content	n	% (scheme)	% (overall)
Symptomatic argumentation (n = 313; 86%)	<i>Non-scientific evidence or facts</i>	42	13.42	11.54
	<i>General medical evidence, facts, or knowledge</i>	46	14.70	12.64
	<i>Diagnosis or the results of an examination</i>	81	25.88	22.25
	<i>Prognosis</i>	1	0.32	0.27
	<i>Treatment or prevention (characteristics)</i>	93	29.71	25.55
	<i>Contextual rules or conventions</i>	3	0.96	0.82
	<i>Doctor's expertise, authority, experience</i>	13	4.15	3.57
	<i>Patient's expertise/authority/experience/history</i>	24	7.67	6.59
	<i>Third party's expertise/authority/experience</i>	8	2.56	2.20
	<i>Number of people supporting the standpoint</i>	2	0.64	0.55
Analogy argumentation (n = 8; 2.2%)	<i>The comparability of the patient's present situation to his/her situation before</i>	3	37.50	0.82
	<i>The comparability of the patient's present situation to the situation of some other(s)</i>	5	62.50	1.37
Causal argumentation (n = 43; 11.8%)	<i>The positive consequences of accepting the advice</i>	33	76.74	9.07
	<i>The negative consequences of not accepting the advice</i>	10	23.26	2.75
Total		364	-	100

ultimately agreed on a ‘new’ or ‘negotiated’ point-of-view at the end of the consultation. Finally, in 1.8% of the cases where the doctor advanced a standpoint, no agreement was reached at all. These figures shift when those cases are left out where the patient immediately agrees on the doctor’s standpoint and no ‘difference of opinion’ takes place (89.4%, 3.5%, 2.4%, 4.7%, respectively). Chi-square tests reveal a significant relationship between doctors’ provision of argumentation and final agreement in those cases where a difference of opinion takes place. In line with theoretical expectations, when the patient disagrees with, or has doubts about, the doctor’s standpoint, the doctor’s provision of argumentation to support his standpoint thus seems to have a positive effect on the final agreement with the doctor’s standpoint ($\chi^2(3, N = 85) = 5.50, p \leq .05$).

4.4 Discussion

4.4.1 Implications

The present study aimed to show the merits of content analysis as a methodological approach for the quantitative study of argumentation in context. In doing so a detailed description of the development of a measurement instrument was provided, as well as some preliminary results. The results demonstrate that a content analytical approach to the study of argumentation in empirical reality is fruitful for a number of reasons.

First, and most noticeably, the results of a content analysis can be used to provide a full-blown, general characterization of an institutionalized context in which argumentative discourse takes place. Participant characteristics (i.e., gender and age) and different features of the discussion (i.e., duration and communicative style of the encounter) can be measured and used for descriptive purposes as well as to generate new hypotheses.

Furthermore, the results of a content analysis that broadly focuses on the role of argumentative discourse in a specific setting can provide a rationale for the study of a certain argumentative move or phenomenon that is prevalent in that context, such as for example the use of pragmatic argumentation in general practice consultation (11.8% of all arguments). A more narrowly focused content analysis could serve to analyze the argumentative move in depth, exploring its different manifestations and argumentative functions from a quantitative perspective. Whereas the present study concentrated on the schematic make-up and propositional content of the arguments, more focused analyses could also take argument presentation into account.

The results also show how content analysis can be used to test relationships between the different (argumentative) variables that can be measured in a specific discussion context. As such, the method can be used to test theoretical assumptions and explore possible correlations. Consider, for example, the correlation between doctors' provision of argumentation and final acceptance of the standpoint in the context of a difference of opinion in general practice. While the present study showed a significant correlation between provision of argumentation and agreement, the results also demonstrate that agreement with the doctor's standpoint is generally the most prevalent outcome of general practice consultation. Lastly, content analysis thus also proves to be a useful method to lay bare the argumentative peculiarities of an activity type that require further – quantitative and qualitative – investigation.

4.4.2 *Methodological challenges*

While the content analytic approach to the study of argumentative discourse in general practice consultation adopted in this study indeed proves to provide a promising starting point for the quantitative study of argumentation in medical practice, a number of

methodological challenges and limitations should be addressed as well. Only when these are taken into account, can the directions for future research be established.

First, it should be noted that in the present study a broad, helicopter view was applied to the study of argumentative discourse in general practice consultation. Thereby it was aimed to provide general insights to guide the quantitative characterization of general practice as a communicative activity type in which argumentation plays a role, but also to provide a general overview of the types of arguments doctors use in daily consultation practice. The development of such general overview would be beneficial for other communicative activity types as well to add to present qualitative characterizations of their argumentative nature. Yet, future observational studies in the context of medical consultation should ideally opt for a focused perspective to shed a more detailed light on, for example, one specific type of argumentative move made by the doctor at a certain stage of the discussion. Such studies could, for instance, also include explorations of the reasonableness and effectiveness of doctors' argumentation. Taken together, these studies that each focus on one specific argumentative phenomenon would constitute a detailed description of doctors' argumentation in general practice consultation. A similar series of studies could be carried out, centering on the patient's argumentation. As such, a full-blown, quantitative characterization of doctor-patient consultation as an argumentative activity type could be created.

A well-designed content analysis allows for multiple coders over time to use the codebook and coding sheet. When analyzing the same data, these coders ideally also obtain similar results. To avoid bias, the use of expert coders only is generally discouraged (Neuendorf, 2002). In the present study, two coders were employed that both had received substantial prior training in argumentation theory. Thus, both could be considered experts. However, this does certainly not mean that other analysts are barred from using the coding instruments in the future. In a codebook addendum and an

additional training session, some of the key elements of argumentation theory that are required for the purposes of coding could be explained. For reasons of time-efficiency, however, in the present study it was chosen to work with two coders that had already received such training prior to the present project and, instead, to invest more time in training the coders to work with the database, the coding instruments, and the coding procedures in general.

4.4.3 Coding difficulties

Both the pilot study and post-hoc testing revealed a number of reliability issues that suggest that some results reported in this study must be interpreted with caution. The item measuring the patient's position towards the doctor's standpoint provided coding difficulties during the pilot study and showed some problems in the post-hoc reliability analyses as well. Additionally, the item aimed at capturing doctor's argumentative support for the standpoint yielded only tentative inter-rater agreement during the pilot study and in the post-hoc analyses. While this suggests that all interpretations based on these results should be made with care, more importantly these findings point out the need for future studies to re-examine and improve these items.

In addition, two coding issues surfaced during the pilot phase of the present study that, even though they did not cause any reliability issues in the overall study, seem worthwhile to be addressed here. First, in the pilot phase coders at times experienced difficulties making a distinction between the doctors' presentation of mere *information* and their provision of *argumentation*. As the ability to make this distinction was of crucial importance for successful completion of the study, the coders extensively discussed the matter in the pilot phase in order to reach common ground. If it was unclear whether or not a statement was intended by the doctor as a supporting argument for a standpoint, coders were instructed – conforming to pragma-dialectical conventions

– to opt for a maximally argumentative interpretation, thus deciding for an analysis “for reason’s sake” (van Eemeren, 1986). Such maximally argumentative analysis is based on a favorable interpretation of the doctor’s utterances assuming that the doctor in principle aims to constructively substantiate his standpoints with argumentative support in order to adhere to both his dialectical and institutional obligations.

The second issue that emerged during the coding phase partially resulted from the choice of the methodology used, but was deemed unacceptable by the coders: the risk of mere counting. As a result of the video-based message format in combination with the sequential design of the codebook, structuring the doctor’s argumentation proved challenging. Sometimes the same arguments were recognized but headed under a different standpoint, at times arguments were not recognized by both coders, or they were labeled differently. This prompted the question: If the same *number* of arguments are counted, can we be certain that also the *same* arguments are counted? To account for this problem, a small qualitative component was added to the study. The coders were asked to add a short argumentation structure at the end of the coding sheet to allow for a post-hoc, qualitative control of the analyses. Future studies should consider similar solutions to account for structuring issues. One possibility would be to add a third coding level for arguments, which would allow coders to identify the relationships between arguments and standpoints in any complexity one could wish for.

4.4.4 *Measurement problems*

In addition to the coding challenges mentioned above, a number of measurement problems should be addressed. First, the inherent presence of implicit argumentation in medical consultation posed a measurement problem. It was decided during the development phase to code explicit elements of argumentation only in order to capture the verbal reality of doctor-patient interaction. Implicit arguments – i.e., unexpressed

premises – were not coded by the analysts. Due to the sequential design of the codebook, however, implicit standpoints (2.7% of all standpoints) had to be coded in order to include the explicit arguments advanced in their support. It could be questioned whether the choice to exclude implicit arguments from coding is indeed justified. After all, patients can be generally assumed capable of deducting these implicit arguments. Moreover, the fact that these arguments are not explicitly voiced does not mean they are absent from the doctor's line of argument. Yet, in order to adhere to the doctors' verbal discourse as closely as possible and avoid adding missing arguments unjustly, in this study only explicit arguments were counted.

In terms of agreement between doctor and patient, in this study it was found that 95.9% of all standpoints advanced by the doctors were accepted by the patients at the end of the consultation. This finding is noteworthy as it begs the question whether the item concerned indeed measured the extent to which reasonable agreement was reached between doctor and patient concerning the standpoint (i.e., *resolution* of the difference of opinion) or rather mere decision-making regarding a certain type of action (i.e., *settlement* of the difference of opinion). Future studies should address this issue, especially since there appeared to be a weak, but significant, correlation between the advancement of argumentation and patients' acceptance of the doctors' standpoints in the context of a difference of opinion. To overcome difficulties in deciding whether agreement is based on resolution or settlement merely on the basis of observation, it could be of interest to complement content analysis by patient (or doctor) interviews. Conducting such interviews would also allow for the inclusion of other potential outcomes of argumentation, such as intended treatment adherence.

Finally, it should be noted that in the present study a number of things were *not* measured. While inter-rater reliability was established prior to the actual study and upon completion of the study by means of a randomly drawn sub-sample, inter-rater reliability

was not tested over-time using different coders. Moreover, intra-rater reliability was not measured. These clear limitations of the present research should be addressed in follow-up studies. Such studies could also assess the measurement instrument's criterion validity by determining correlations of the test items – in particular those concerning the argumentative statements – with criterion variables that are representative of similar constructs, such as items belonging to the *Roter Interaction Analysis System* (Roter & Larson, 2002).¹⁴

4.5 Conclusion

Despite the methodological challenges mentioned in the above, the present paper demonstrates that – if designed and executed well – content analysis can provide a reliable, accurate, and precise tool for the quantitative analysis of argumentation in context. The content analytic approach allows researchers to add to current, mostly qualitative endeavors in the field of argumentation theory – and pragma-dialectics more specifically – to situate argumentation in its broader context in order to explore to what extent institutionalized rules, norms, and conventions offer opportunities for, and pose constraints on, the ways in which discussants may argue. Furthermore, content analysis can provide insights into the extent to, and ways in which specific argumentative phenomena occur and, therewith, even provide a rationale or stepping stone for further exploration of such phenomena.

Content analysis also offers the possibility to explore correlation relationships among different verbal and non-verbal characteristics of a discussion context such as that of general practice. Insight into these relationships is of interest to analysts of

14. For example, the RIAS coding categories shows criticism, asks for opinion, and shows agreement.

argumentation, but also to scholars of, for example, health communication. Demonstrating the argumentative nature of the interaction between doctors and their patients, the results of a content analysis could provide a potential innovative starting point for health communication researchers as well as scholars of argumentation who are interested in the effects of certain communicative behaviors on the (argumentative) outcomes of general practice consultation.

Appendix: Advice statement level – Coding

Variable: Doctor's medical standpoint

- | | | |
|------------|--|---|
| 100 | Diagnosis: The doctor identifies the nature of the patient's health condition. For diagnoses concerning a specific issue, use the codes below: [*] | |
| 101 | General and unspecified | |
| 102 | Blood, blood forming organs and immune mechanism | |
| 103 | Digestive | |
| 104 | Eye | |
| 105 | Ear | |
| 106 | Cardiovascular | |
| 107 | Musculoskeletal | |
| 108 | Neurological | |
| 109 | Psychological | |
| 110 | Respiratory | |
| 111 | Skin | |
| 112 | Endocrine/metabolic and nutritional | |
| 113 | Urological | |
| 114 | Pregnancy, childbearing, family planning | |
| 115 | Female genital (incl. breast) | |
| 116 | Male genital (incl. breast) | |
| 117 | Social problems | |
| 200 | Treatment: The doctor gives advice regarding treatment of the patient's health condition. For specific treatment advice, use the codes below: | |
| 201 | Type of medication | <i>E.g., antibiotics, acetaminophen, etc.</i> |
| 202 | Type of examination | <i>E.g., X-rays, blood tests</i> |
| 203 | Referral to a specialist or for therapy | <i>E.g., cardiologist, physiotherapy</i> |
| 204 | Referral for a second opinion | <i>E.g., another general practitioner</i> |
| 205 | Deferral of the decision | <i>E.g., Postponing the decision</i> |
| 206 | No-action | <i>E.g., waiting until the pain subsides</i> |
| 300 | Prognosis: The doctor provides a standpoint concerning the outlook or prospects of the patient's health condition. For specific prognoses, use the codes below: | |
| 301 | Estimated time for recovery | <i>E.g., the bone will heal in six weeks</i> |
| 302 | Recurrence of the problem | <i>E.g., The mold is likely to come back</i> |
| 303 | No recovery possible | <i>E.g., the disease is chronic or deadly</i> |
| 400 | Prevention: The doctor provides a standpoint pertaining to prevention strategies. For specific prevention advice, use the codes below: | |

401	Lifestyle changes	<i>E.g., quit smoking, practice safe sex, lose weight</i>
402	Preventive medication	<i>E.g., preventive pain killers or blood thinners</i>
403	Preventive examination	<i>E.g., a mammography</i>
404	Preventive intervention	<i>E.g., physiotherapy or surgery</i>

33 Other: The doctor provides an advice standpoint pertaining to something else:*Note:*

* Diagnostic codes are based on the International Classification of Primary Care (ICPC-2) method for primary care encounters (available via <http://qicpd.racgp.org.au/media/57417/icpc-codes.pdf>).

*Variable: Type of argumentative support***Symptomatic relationship, in which reference is made to (the):**

- | | |
|---|---|
| <input type="checkbox"/> Non-scientific evidence or facts | <i>You are young; Fall has started</i> |
| <input type="checkbox"/> General medical evidence, facts, or knowledge | <i>The meniscus is part of the knee</i> |
| <input type="checkbox"/> Diagnosis or the results of an examination | <i>It's eczema; The muscles are sore</i> |
| <input type="checkbox"/> Prognosis | <i>You have to keep bed rest</i> |
| <input type="checkbox"/> Treatment/prevention (characteristics) | <i>X alleviates your symptoms</i> |
| <input type="checkbox"/> Contextual rules/conventions of consultation | <i>You need an appointment for this</i> |
| <input type="checkbox"/> Doctor's expertise/authority/experience | <i>I always prescribe X</i> |
| <input type="checkbox"/> Patient's expertise/authority/experience/history | <i>You have suffered from Y for long</i> |
| <input type="checkbox"/> Third party's expertise/authority/experience | <i>Doctor Z says so; Studies prove it</i> |
| <input type="checkbox"/> Number of people supporting the standpoint | <i>Many people use X daily/think that</i> |
| <input type="checkbox"/> Other: _____ | |

Analogy relationship, in which reference is made to (the):

- | | |
|---|--|
| <input type="checkbox"/> The comparability of the patient's present situation to his/her situation before | <i>E.g., You used X last time when you experienced these symptoms too</i> |
| <input type="checkbox"/> The comparability of the patient's present situation to the situation of some other(s) | <i>E.g., Also your brother has used X when he experienced these symptoms</i> |
| <input type="checkbox"/> Other: _____ | |

Causal relationship, in which reference is made to (the):

- | | |
|--|--|
| <input type="checkbox"/> The positive consequences of accepting the advice | <i>E.g. If you take X, the pain will get less</i> |
| <input type="checkbox"/> The negative consequences of not accepting the advice | <i>If you do not take X, the pain will get worse</i> |
| <input type="checkbox"/> Other: _____ | |

Chapter V

The relationship between visit characteristics and general practitioners' provision of argumentation to support their medical advice: Results from a content analysis

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Abstract

General practitioners' medical recommendations are not always immediately accepted by their patients. As patients bring their own beliefs, knowledge, experiences, and preferences to the medical encounter, their opinions concerning diagnosis and treatment may sometimes deviate from their doctors'. Aiming to convince their patients of the acceptability of their advice, doctors can advance supporting arguments. Thus far, little is known about the relationships between general practitioners' provision of argumentation for their medical advice and characteristics of the medical visit, such as participant gender and visit duration. This study seeks to explore these relationships. Moreover, it aims to determine the association between doctors' argumentation and their decision-making style. An observational study of seventy, randomly drawn videos of general practice consultations was conducted. Two independent coders analyzed doctors' provision of argumentation and coded the duration of the visit, the participants' gender, and the practitioners' perceived decision-making style. General practitioners' provision of argumentation was found to be associated with lengthier visits and a more participatory decision-making style. Moreover, participant gender appeared to affect the provision of argumentation significantly, with female doctors providing more argumentation than their male colleagues. Gender was neither directly related to visit length nor to the doctors' decision-making style. We argue that the absence of the latter relationships, which have been observed in other studies, can be explained by the mediating role played by doctors' provision of argumentation.

Keywords

Observational content analysis, general practice consultation, argumentation, participant gender, visit duration, participatory decision-making style.

5.1 Introduction

In spite of the vast attention that has been paid by scholars of health communication to the communicative aspects of the doctor-patient relationship, so far relatively little attention has been paid to the argumentative characteristics of the communication between general practitioners and their patients. This is not fully surprising, as in English the term *argument* often carries the negative connotation of a fight or a quarrel. Referring to argumentation in the context of general practitioners' communication with their patients, thus, would seem at odds with the cooperative, patient-centered approach to the medical encounter that has been advocated over the past decades (Ong, de Haes, Hoos, Lammes, 1995; Taylor, 2009; Tucket, 1985). However, when engaging in argumentation is conceptualized as a critical and rational discussion process in which communicative partners, by advancing arguments, strive to reasonably convince each other of the acceptability of their point of view (or *standpoint*) (cf. van Eemeren & Grootendorst, 2004), the act of arguing suddenly becomes a desirable – if not essential – component of any medical consultation that is aimed at reaching a shared decision.

In general practice consultation patients typically seek their doctor's medical advice or opinion concerning a health issue they have been experiencing. Such advice may concern, for instance, a diagnosis or a treatment plan. The doctor characteristically provides the patient with a recommendation that represents his expert opinion and that is in turn based on his medical knowledge and experience, but also his professional preferences and beliefs. Patients, however, bring their own perspective to the medical encounter (Charles, Gafni, & Whelan, 1999). Tucket (1985), therefore, refers to the medical consultation as a 'meeting between experts'. As a result of these varying perspectives, patients may not always immediately accept their doctors' medical recommendations. They may have initial doubts about their doctors' advice and

sometimes patients' opinions concerning diagnosis and treatment may even deviate altogether from their doctors'. In these cases, from an argumentation theoretical point of view, doctor and patient can be said to have a difference of opinion, which should be resolved through a reasonable discussion procedure (van Eemeren & Grootendorst, 2004).

To convince their patients of the acceptability of their medical advice, doctors can advance argumentation. In doing so, general practitioners can simultaneously stimulate their patients to engage in a reasonable discussion procedure in which the opinions of both parties are carefully weighed on the basis of their arguments. Doctor and patient act as discursive partners whose perspectives may be different, yet of equal importance to the decision-making process. Thereby, doctors' provision of argumentation to support their medical advice closely corresponds to a participatory approach to doctor-patient communication in which the ultimate goal of the medical consultation is to reach a decision that is mutually shared.

Thus far, little is known about the relationships between general practitioners' provision of argumentation for their medical advice and characteristics of the medical visit. Yet, various studies have demonstrated positive correlations between visit characteristics, such as visit duration and participant gender, and doctors' overall communication style. These studies generally show that doctors' decision-making style becomes increasingly participatory with lengthier office visits (Kaplan, Gandek, Greenfield, Rogers, & Ware, 1995). Moreover, female physicians are typically found to engage in more talk, to conduct longer visits, and to be more participatory in their communication style – particularly when seeing female patients (Kaplan et al., 1995; Roter, Lipkin, & Korsgaard, 1991; Sandhu, Adams, Singleton, Clark-Carter, & Kidd, 2009).

The present study seeks to specifically explore the relationships between visit duration and participant gender and general practitioners' use of argumentation. Moreover, it aims to determine the association between doctors' argumentation and their decision-making style. It is hypothesized that general practitioners' provision of argumentation in support of a medical advice is positively correlated with a perceived participatory decision-making style. Furthermore, in line with the findings concerning general practitioners' participatory communication, general practitioners' provision of argumentation is assumed to be related to the overall duration of the visit, in such a way that longer visits are associated with more argumentation. Lastly, it is hypothesized that the participants' gender has an effect on doctors' provision of argumentation in support of their medical advice. Visits with female general practitioners are hypothesized to contain more argumentation than those with male general practitioners. Moreover, it is assumed that female same-sex visits contain more argumentation than other visits. Although the study mainly focuses on general practitioners' provision of argumentation, the assumed relationships between visit duration and participant gender and participant gender and perceived participatory decision-making style are examined as well.

5.2 Methodology

5.2.1 Sample and design

To test the hypotheses, an observational content analysis of seventy videotaped general practice consultations was conducted. Videos were randomly drawn from a database containing in total 808 representative, Dutch general practice consultations. The videos were recorded with an unmanned camera as part of a large-scale project on doctor-patient communication carried out by the Netherlands Institute for Health Services Research in 2007-2008. Both general practitioners and patients provided informed

consent prior to participation in the study. The project and database have been described in more detail elsewhere (Bekker-Grob et al. 2011; Noordman et al. 2010, 2012).

Consultation videos of 34 unique general practitioners were included in the study. The majority of the general practitioners (61.8% male, 38.2% female) was estimated on the basis of the videos to be between 40 and 60 years old (88.2%). Due to the method of data collection, the patients (52.9% male, 47.1% female) were often not visible in the video (35.7%). Of all visible patients 33.3% was estimated to be 60 years or older and 28.9% younger than 20 years old. The young patients were often accompanied by a (grand)parent to the consultation (76.9%). Most other patients came to the consultation alone (77%) or were accompanied by a partner (8.6%).

5.2.2 Procedures and measurements

To measure the characteristics of doctors' provision of argumentation during general practice consultation, a codebook was developed in which the variables of interest were specified. Two independent, female coders were instructed to code several characteristics of the medical encounter – including participants' gender and age and the duration of each visit – as well as a series of argumentative features of the interaction between doctor and patient. Prior to data collection, coders were extensively trained in the use of the coding instruments. In a pilot study, reliability statistics were computed to assess the accuracy of the coding procedures. Variables and coding categories were revised until an acceptable reliability criterion was reached.¹ Upon completion of the data collection,

1. To establish the coding reliability, Krippendorff's alpha, Cohen's kappa, and the percentage agreement were calculated for each of the variables. To determine the reliability of the OPTION-coding, exceptionally and following the original authors of the scale, an intra-class coefficient was computed. A reliability criterion of α , κ , or $ICC > .80$ was used.

once more the inter-rater reliability was established for each of the variables under study. Overall reliable results were achieved. For a more detailed description of the development and validation of the instruments see Labrie & Schulz (under revision).

For each consultation, coders were asked to note down the length of the medical encounter, rounding off by half a minute precisely. Moreover, they were instructed to indicate the gender of both the general practitioner and the patient. The general practitioners' decision-making style was measured using the validated, twelve-item OPTION-scale, which was developed by Elwyn et al. (2003). This scale aimed to measure the extent to which the doctor involves the patient in the treatment decision-making process. The coders scored all items on a five-point scale ranging from 0 ("behavior is not observed") to 4 ("behavior observed and executed to a high standard"). On the basis of the summed items, a total OPTION-score was calculated ranging between 0 and 100, where 0 indicated 'least involvement' and 100 pointed to 'most involvement' of the patient in the decision-making process.

Two measures of doctors' provision of argumentation were used: (1) the total number of explicit arguments provided by the doctor in the consultation and (2) the average number of explicit arguments adduced per standpoint in each consultation. Following the pragma-dialectical theory of argumentation (van Eemeren & Grootendorst, 2004, p. 3), an argument was defined as an utterance put forward by the doctor in an attempt to justify or refute a proposition expressed in a medical standpoint. A medical standpoint, in turn, was conceptualized as a point of view of the part of the doctor – often voiced in terms of an advice or recommendation – pertaining to, for instance, the patient's diagnosis, prognosis, treatment, or prevention plan. To determine the number of arguments adduced by the general practitioners, the coders – who had both received prior training in argumentation theory – first identified the different medical standpoints advanced by the doctor in each consultation. To aid the coding

process, the codebook contained a list of examples of medical standpoints as well as indicator words and phrases that idiomatically signal the advancement of a standpoint (i.e., *I believe that, in my opinion, I advise you to, my recommendation is*, etc.) (van Eemeren, Houtlosser, & Snoeck Henkemans, 2007, p. 30). Subsequently, coders reconstructed the arguments supporting each standpoint. Again, signal words and phrases as well as examples were provided in the codebook to guide the coding process (i.e., *because, therefore, another reason is, moreover*, etc.) (van Eemeren, Houtlosser, & Snoeck Henkemans, 2007, p. 194-216). Only explicit arguments were coded. Unexpressed premises and other implicit elements were not coded by the analysis to do justice to the communicative reality of the consultation. The structural or hierarchical relationships between arguments were not taken into account by the analysts.

5.2.3 *Data analysis*

Data analysis was performed using the statistical package SPSS 21. Pearson's product-moment correlation coefficient and one-way analyses of variance were used to measure the associations between the different variables of interest. To account for the non-normal distribution of the variables *visit duration* and *perceived decision-making style* a square root transformation was performed. As transformation of the data appeared insufficient for *number of arguments/consultation* and *average number of arguments/standpoint* due to two unrepresentative outliers, for these variables the outlier scores were changed into one unit above the next highest score in the data.²

2. Case deletion was not deemed appropriate, as there was no reason to believe that the deviant cases did not match our sampling criteria.

5.3 Results

5.3.1 Argumentation in general practice consultation

General practitioners advanced on average 3.14 medical standpoints per consultation (range 0-8, $SD = 1.82$).³ The majority of these standpoints (68.6%) pertained to the recommended course of treatment or action to be taken by the patient, such as the advice to take a specific medicine, to have an examination, to see a specialist, to take no action at all, or to defer the decision to a later time. Of the doctors' standpoints, 24.1% related to patients' diagnoses. The most common diagnostic standpoints concerned patients' cardiovascular (22.6%), musculoskeletal (20.8%), and respiratory complaints (20.8%). Only 7.2% of standpoints related to either the patient's prognosis (e.g., the possibility or estimated time of recovery) or a prevention plan (e.g., lifestyle changes).

General practitioners supported their standpoints with 1.65 arguments on average (range 0-16, $SD = 1.77$). In their arguments, general practitioners most frequently referred to (1) the characteristics of the advised treatment (25.6%, e.g., *I advise ibuprofen, because ibuprofen can alleviate your pain*), (2) the nature of the complaints as well as findings from the examination (22.3%, e.g., *I advise antibiotics, because you have a bacterial infection*), (3) medical facts (12.6%, e.g., *I recommend further tests, because malignancies can occur*), (4) general facts (11.5%, e.g., *I do not advise a mammography, because you are still young*), and (5) the positive consequences of accepting the doctor's advice (9.1%, e.g., *I advise physical therapy, because that will get*

3. The descriptive statistics concerning the provided standpoints and arguments, the doctors' perceived decision-making style, and visit duration are based on the original, non-transformed data to do justice to what was found in the randomly drawn representative sample. All further calculations are based on the transformed data.

you back on your feet). In total, per consultation a mean of 5.50 arguments were explicitly voiced (range 0-28, $SD = 4.42$).

5.3.2 Argumentation and perceived decision-making style

Doctors were not perceived to involve their patients in the decision-making process. The total OPTION score for all consultations showed a skewed distribution with the mean score equal to 14.02 (range 2.08-43.75, $SD = 7.59$) and the median equal to 12.5. These findings are consistent with results reported by Elwyn et al. (2003) and Goss et al. (2007).⁴ To assess the relationship between general practitioners' perceived decision-making style and their provision of argumentation for their medical advice, Pearson's product-moment correlation coefficient was computed. The results showed a moderately positive correlation between number of arguments provided by the general practitioner during the consultation and the perceived participatory style ($r = .30$, $n = 65$, $p < .05$). No correlation was found between the average number of arguments provided by the doctor per advice and the perceived participatory style.

5.3.3 Argumentation and visit duration

The average length of the consultations was 10.8 minutes (range: 3.5-26, $SD = 4.8$),¹ corresponding to earlier findings on the average duration of general practice consultation in the Netherlands (Deveugele, Derese, van den Brink-Muinen, Bensing,

4. The study by Elwyn et al. (2003) was conducted in the UK and used a 5-point scale, anchored at both ends with the words "strongly agree" and "strongly disagree" ($M = 16.9$, $SD = 7.7$, range = 3.3- 44.2). Goss et al. (2007) investigated the reliability of the Italian language version of the OPTION scale and used a 5-point scale ranging from 0 (behavior not observed) to 4 (high standard) ($M = 20.61$, $SD = 9.12$, range = 6-54).

and De Maeseneer 2002). To determine the relationship between the visit duration and general practitioners provision of argumentation for their medical advice, Pearson's product-moment correlation coefficient was calculated. While no significant correlation was found between the average number of arguments per advice and visit length, a moderately positive correlation was found between number of arguments per consultation and visit duration ($r = .34$, $n = 66$, $p < .01$).

5.3.4 Argumentation and participant gender

A one-way analysis of variance was conducted to assess the effect of participant gender on general practitioners' provision of argumentation for their medical advice. Most notably, a significant effect of physician gender was found ($F(1, 64 = 7.86$, $p < .01$). On average, female general practitioners provided more arguments per consultation ($M = 6.54$) as well as per standpoint ($M = 2.25$) than their male colleagues ($M = 4.24$; $M = 1.31$, respectively). The analyses also showed a significant relationship between the doctor-patient gender dyads and the number of arguments advanced by the general practitioner per consultation ($F(3, 62 = 2.76$, $p = .05$). In the female-male (doctor-patient) dyad, general practitioners advanced on average most arguments ($M = 6.93$), followed by the female-female dyad ($M = 6.14$), the male-female dyad ($M = 4.53$), and finally the male-male dyad ($M = 4.05$). A different pattern was found for the average number of arguments provided by the doctor per advice ($F(3, 62 = 4.38$, $p < .01$). On average, most arguments were adduced per advice in the female-female dyad ($M = 2.37$), followed by the female-male dyad ($M = 2.13$), the male-male dyad ($M = 1.33$), and the male-female dyad ($M = 1.29$). Bonferroni's posthoc criterion located the latter between-group difference to be between the female-female dyad, on the one hand, and the two dyads with a male physician, on the other.

5.3.5 *Perceived decision-making style, visit duration, and participant gender*

Finally, also the associations between perceived decision-making style, visit duration, and participant gender were explored. While general practitioners' perceived decision-making style was found to be positively associated with the duration of the visit ($r = .29$, $n = 67$, $p < .05$), no significant relationships were detected between participant gender and visit duration (*physician gender*: $F(1, 68) = .23$, $p > .05$; *gender dyad*: $F(3, 66) = .19$, $p > .05$). More so, one-way analysis of variance did not detect a significant relationship between participant gender and perceived decision-making style (*physician gender*: $F(1, 65) = .30$, $p > .05$; *gender dyad*: $F(3, 63) = .52$, $p > .05$).

5.4 Discussion and conclusion

The results, which are summarized in Figure 4, confirm the majority of the study's hypotheses. General practitioners' provision of argumentation was found to be positively associated with lengthier visits and a more participatory decision-making style. In turn, and in accordance with findings by, amongst others, Kaplan et al. (1995), visit duration and doctors' participatory decision-making style were positively correlated as well. Not the extent to which the single recommendations within one consultation were substantiated by argumentative support, but the overall number of arguments provided by the general practitioner per consultation appeared to be a key determinant. On the one hand, this suggests that the more arguments doctors use throughout, the more time it requires to conclude the consultation. To general practitioners, whose time is scarce, this may seem undesirable. Yet, on the other hand, the findings also imply that doctors who provide more arguments are perceived to (take the time to) involve their patients in the decision-making process more.

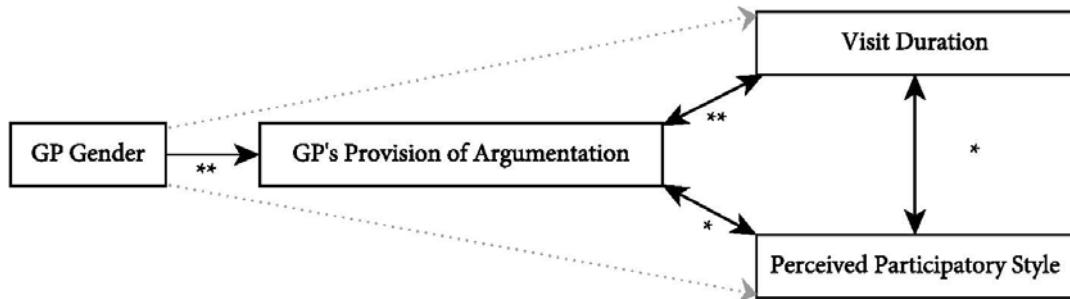


Figure 4. Illustration of the main study findings

Note: Significant relationships are marked with * ($p < .05$) or ** ($p < .01$). A dashed line indicates that a relationship was hypothesized, yet not found to be significant.

The importance of patient involvement and patient-centered communication has frequently been emphasized. From an ethical viewpoint it has been argued that doctors should ideally take into account their patients' perspective by providing patients with all relevant information, encouraging them to take part in the treatment decision-making process, and acknowledging their autonomy (Frosch & Kaplan, 1999; Sandman & Munthe, 2010). In addition, a significant body of research has explored the positive effects of patient-centered communication behaviors on consultation outcomes. Studies have shown, for example, that patients who perceive the medical visit as patient-centered, require fewer diagnostic tests, have fewer referrals to other physicians, and more often feel that common ground was achieved with their physician. Other outcomes that have been associated with doctors' patient-centered communication are patient satisfaction, adherence, and improved health status (Duggan, Geller, Cooper, & Beach, 2006; Ong, de Haes, Hoos, & Lammes, 1995; Stewart et al, 2000). In their discussion of the therapeutic effects of communication on proximal, intermediate, and long-term consultation outcomes, Street, Makoul, Arora, and Epstein (2009, p. 298) state that:

Patients will more likely experience better health when they and clinicians reach decisions that are based on the best clinical evidence, are consistent with patient values, are mutually agreed upon, and are feasible to implement.

Street et al. (2009) do not discuss the role of argumentation as a communicative function in medical consultation. However, they cite Charles, Gafni, and Whelan (1999), who propose that to ultimately arrive at a mutually shared decision, doctor and patient should exchange their perspectives – or, points of view – subsequently engage a process of deliberation that is focused on establishing common ground and resolving any differences of opinion (p. 298). The findings from the present study suggest that providing patients with arguments in support of medical recommendations can be a constructive way for doctors to stimulate patients to engage in such a patient-centered deliberation process.

The results from this study furthermore show that physician gender has a considerable impact on general practitioners' provision of argumentation for their medical advice. Female general practitioners, on average, provide more arguments per medical visit and per medical advice than their male colleagues do. This result corresponds to earlier findings that showed that female physicians use more talk during medical visits (Roter, Lipkin, & Korsgaard, 1991). Analyses revealed that female general practitioners use most arguments to support their standpoints when seeing their female patients – particularly in contrast to their male colleagues. Female doctors use most arguments overall, however, when seeing their male patients. As such, the results found concerning the gender dyads did not reveal a conclusive pattern. The gender of the general practitioner appeared to be the predominant predictor of argumentation provision.

In contrast to what has been reported in previous studies (Roter & Hall, 2004; Kaplan et al., 1995), in this study participant gender did not *directly* affect visit duration and general practitioners' decision-making style. Yet, the study findings suggest a pathway in which doctors' provision of argumentation acts as *mediator* between the aforementioned variables. That is, female doctors seem to be perceived as more participatory decision-makers – at least in part – *because* they provide more argumentation and, therefore, engage in lengthier medical visits. As such, general practitioners' provision of argumentation could also be viewed to serve the functional purpose of achieving a more patient-centered decision-making process.

The results of the present studies should be interpreted taking into account some of the limitations of the study design. First and foremost, use was made of a relatively small – albeit random and representative – sample of Dutch general practice consultations. As a result, findings may be specific to the Dutch context of medical consultation. Furthermore, general practitioners in the sample were generally not perceived to involve their patients in the decision-making process to a great extent. While this is consistent with earlier findings, a more equal distribution in terms of decision-making style could have provided valuable information. Lastly, it could be argued that the coding procedure itself was potentially affected by the participants' gender. The two coders analyzing the data were both female. Given the study's focus on the role of gender, replication studies are advised to employ both male and female coders to avoid a gender bias.

Despite these limitations, the results give reason to argue that health care educators and scholars alike should consider the ability to argue, to provide reasons for medical recommendations, as an essential component of a doctor's set of communication skills. While incorporation of argumentation skills into doctors' communication training is conceivable, scholars of health communication may still

address those aspects of general practitioners' argumentative discourse that have not yet been touched upon. These could include issues such as argument quality, strength, and reasonableness. Similarly, argument placing and quantity could be considered: when should doctors exactly advance their arguments during the consultation and how many arguments are 'enough'? Further observational research can shed more light on these aspects.

While observation studies can yield valuable insights, such research is not suitable to establish causal relationships. Experimental (intervention-based) studies could provide information on causal effects of doctors' provision of argumentation to support their treatment advice on both proximal consultation outcomes, such as understanding, doctor-patient agreement, and satisfaction, and long-term outcomes pertaining to, for instance, adherence and the patient's health. Going beyond the legal, ethical, and social considerations to advance argumentation, thereby, also the pragmatic reasons for doctors to provide their patients with arguments should be explored.

Chapter VI

The effects of general practitioners' use of argumentation to support their treatment advice: Results of an experimental study using video-vignettes

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Abstract

In recent years, general practice consultation has often been characterized as an argumentative activity. It has been argued that, guided by the ethical and legal principle of informed consent and the ideal standards of participatory and evidence-based medicine, doctors should provide argumentative support for their recommendations in order to encourage patients to actively take part in the treatment decision-making discussion. Thus far, however, it has remained unclear what causal effect general practitioners' provision of argumentation may have on consultation outcomes, such as patients' perceptions of their doctors' decision-making style and credibility, their acceptance and recall of the medical advice, and subsequently their intention to adhere to the advice. In this study, therefore, the effect of general practitioners' argumentative support for their treatment recommendations is studied experimentally using scripted video-vignettes. Moreover, rather than focusing merely on the *presence* of argumentation, also the role of the pragma-dialectical *reasonableness* of general practitioners' argumentation is taken into account.

Keywords

Randomized experiment, video-vignettes, general practice consultation, argumentation (theory), reasonableness, consultation outcomes.

6.1 Introduction

In has been increasingly argued that general practice consultation is inherently argumentative in nature as a result of doctors' legal obligation to provide their patients with all relevant information prior to treatment and to support their medical recommendations with a – preferably evidence-based – rationale (Labrie & Schulz, 2013).¹ Moreover, it has been illustrated that patient-centered ideal models of communication, such as the shared decision-making model, contribute to the argumentative character of doctor-patient interaction. These models stipulate that in order for doctor and patient to arrive at a mutually shared and informed treatment decision, both parties should ideally be willing to engage in a reasonable discussion process (e.g., Labrie, 2012; 2014; Schulz & Rubinelli; 2008; Sandman & Munthe, 2010; Snoeck Henkemans & Mohammed, 2012; Snoeck Henkemans & Wagemans, 2012; Wirtz, Cribb, & Barber, 2006).

In various studies, the potentially positive effects of doctors' argumentative support for their recommendations in medical consultation have been emphasized. It has been suggested that general practitioners' use of argumentation can positively affect proximal consultation outcomes such as doctors' perceived decision-making style (e.g., Labrie & Schulz, submitted), their perceived credibility as medical experts (e.g., Goodnight & Pilgram, 2012; Rubinelli & Zanini, 2012), patients' understanding, acceptance, and remembrance of their doctors' medical advice (e.g., Barilan & Weintraub, 2001; Drew, Chatwin, & Collins, 2001; Labrie & Schulz, 2013), and subsequently patients' satisfaction with and intention to adhere to the advice (e.g.,

1. This legal obligation is referred to as *informed consent* (Herring, 2009).

Barilan & Weintraub, 2001; Drew, Chatwin, & Collins, 2001; Feng, Bell, Jerant, & Kravitz, 2011; Rubinelli & Schulz, 2006; Sandman & Munthe, 2010).

Thus far, however, research focusing on the role of argumentative discourse in medical consultation has been predominantly reflective and qualitative in nature (Labrie & Schulz, 2013). Only a few quantitative, observational studies have been conducted (e.g., Feng, Bell, Jerant, & Kravitz, 2011; Labrie & Schulz, under revision). Yet, while observational studies can provide valuable, quantitative insights concerning the argumentative aspects of the doctor-patient relationship in medical practice, they are inapt to unequivocally determine the causal relationships between communication and outcomes. Therefore, general practitioners' use of argumentation should also be explored experimentally – in a controlled environment that is suited to detect causality.

In this study, such an experimental approach is adopted to the study of argumentation in general practice consultation. Using scripted video-vignettes, it is aimed to test the causal effects of doctors' provision of argumentative support for their treatment recommendations. Five key proximal outcome variables were identified on the basis of a systematic literature review and previous studies conducted (Labrie & Schulz, 2013; under revision; submitted): (1) doctors' perceived participatory decision-making style, (2) doctors' perceived ethos/credibility, (3) patients' acceptance of the doctors' medical advice, (4) their recall of the medical advice, and subsequently (5) their intention to adhere to the advice. Moreover, in this study it is aimed to determine to what extent the pragma-dialectical *reasonableness* (van Eemeren, Garssen, & Meuffels, 2009; van Eemeren & Grootendorst, 1984; 1992) of doctors' provision of argumentation affects these relationships.

6.2 Hypotheses

Based on the literature, it is hypothesized that general practitioners' provision of argumentation to support their medical advice has a positive effect on doctors' perceived participatory decision-making style, doctors' perceived ethos/credibility, patients' acceptance of the doctors' medical advice, and their recall of the medical advice. Furthermore, it is hypothesized that subsequently doctors' perceived participatory decision-making style, their perceived ethos/credibility, patients' acceptance of the doctors' medical advice, and their recall of the medical advice are each positively associated with patients' self-reported intention to adhere to the advice. More so, a positive correlation between doctors' perceived ethos/credibility and patients' acceptance of the medical advice is assumed. Finally, it is hypothesized that the aforementioned effects of doctors' provision of argumentation are stronger when the general practitioner provides theoretically *reasonable* (or sound) argumentation than when the doctor uses *unreasonable* (or fallacious) argumentation. The hypotheses are illustrated in Figure 5.

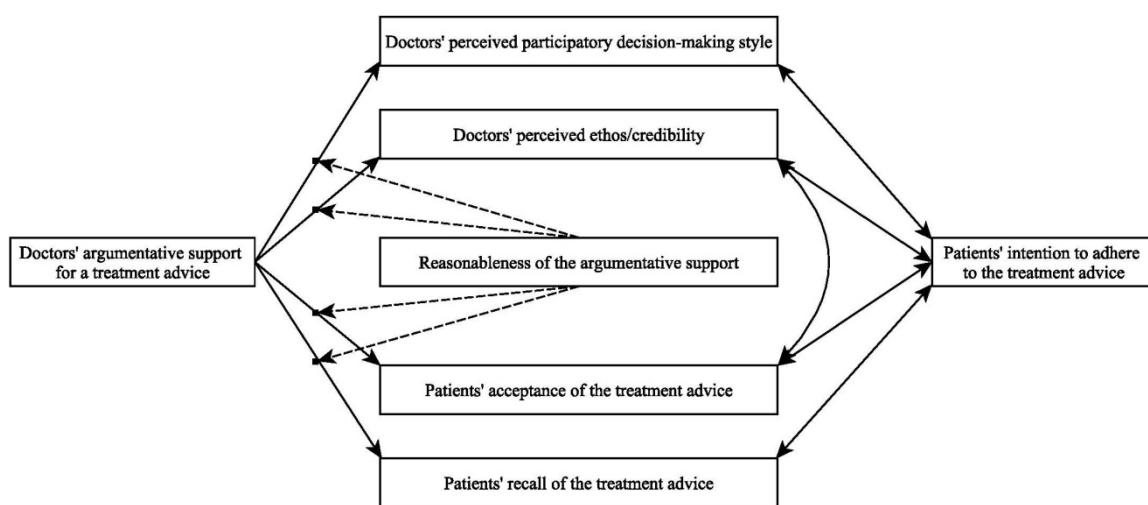


Figure 5. Illustration of the hypothesized relationships

6.3 Methodology

6.3.1 *Sample*

In total, 434 participants were recruited from an online surveying platform (www.socialsci.com) in return for redeemable online store credit.² The participants (217 females, 217 males) ranged in age from 18 to 73, with a mean age of 31.1 ($SD = 11.1$) and were all based in the United States. Participants were overall highly educated, with 37.8% holding a Bachelor's degree, 28.1% having some college experience but no degree, and 13.6% having a Master's degree. The majority of the respondents indicated to be (self-) employed (62.0%) or to be currently studying (22.6%). About one fifth of the participants (20.5%) reported to have experience working or studying in the medical sector, for example, as a medical technician, nurse, physician, or pharmacist.³ To participate in the study, it was conditional for respondents to have visited a general practitioner at least

2. SocialSci recruits participants using a distributed online advertising network, print media, and live recruitment. In total 505 participants completed the survey via the SocialSci platform. On the basis of power analyses, a sample size of minimally 44 respondents per experimental condition was foreseen. Respondents that reported technical problems viewing or hearing the experimental videos or completing the survey were removed from the sample. Moreover, one respondent reported that she had not been able to properly read the consent form due to a technical error and was therefore removed. Finally, to ensure the validity of the data, all respondents that took less than 5 minutes or more than 40 minutes to complete the survey were excluded from the analyses.

3. This figure is a reflection of the percentage of workers employed in health care occupations across the United States. The Bureau of Labor Statistics reports that while about 11 percent of private sector workers work in health care establishments nationwide, in many metropolitan areas the proportion of private-sector workers employed in health care exceeds 20 percent (United States Department of Labor, 2009). These figures exclude the self-employed, researchers and students of healthcare.

once during their lifetime. Most participants indicated to have seen their general practitioner recently: either in the past six months (46.3%) or in the past year (20.0%). Overall, participants considered their health to be *good* compared to others their age (5-point Likert-scale, ranging from *very poor* to *very good*: $M = 4$, $SD = .8$).

6.3.2 Procedures

Participants were randomly assigned to one of nine experimental groups within the online survey tool. Upon completion of a set of basic questions about their socio-demographics and their health-status,⁴ participants were asked to watch a short video-vignette in which a general practitioner discussed treatment with a patient. Participants were instructed to visualize themselves in the position of the patient. Depending on the experimental condition, participants were told to imagine that they were consulting their general practitioner concerning a sore throat, low back pain, or acute diarrhea they had been suffering from. In a short introductory text their symptoms were explained. Moreover, given that each video-vignette showed only the treatment discussion phase of the medical consultation, the 'analogue' patients were told that their doctor had taken their medical history and, when applicable, conducted a physical examination. Following the video, participants were asked to complete a questionnaire containing questions concerning the medical consultation they just experienced. Participants were required to

4. Although it is often advised to include all potentially sensitive questions, including socio-demographics and health status, at the end of a survey, here it was purposefully decided to ask these questions immediately. Hereby, it was aimed to give participants the chance to get accustomed to the survey tool before viewing the video-vignette. The other questions were related to the video content and could, therefore, not be asked immediately. All questions concerning health issues included the option for participants to indicate that they preferred not to answer.

complete the questionnaire in one sitting and were not able to pause the video or to use the back or forward buttons in their browser.

6.3.3 *Video-vignette design*

The video-vignettes were created and validated following the recommendations provided by Hillen, van Vliet, de Haes, and Smets (2013) and van Vliet, Hillen, van der Wall, Plum, and Bensing. (2013). The three medical conditions (mild, viral throat infection; acute, a-specific low back pain; uncomplicated, acute diarrhea) provided the backdrop for studying the effects of the main independent variable, general practitioners' provision of argumentation in support of their treatment advice, on the study's dependent variables: perceived participatory decision-making style, perceived ethos/credibility, acceptance and recall of the advice, and intention to adhere to the advice. The general practitioner's provision of argumentation was varied across the vignettes according to the presence and the reasonableness of the argumentation provided. This resulted in a 3 x 3 factorial design as displayed in Figure 6.

Medical context. Different general practice complaints were used in this study, to allow for generalization beyond a single medical condition. The medical conditions were not chosen haphazardly. Infections of the upper respiratory tract, neck and back pain problems, and gastrointestinal infections are among the conditions that have the highest incidence rates in 15 to 65-year-olds and are, moreover, among the complaints that are most frequently seen in general practice consultation (Cardol, van Dijk, de Jong, de Bakker, & Westert, 2004; Poos & Eysink, 2011).⁵ As such, it was assumed that

5. Based on data that were collected in the Netherlands in 2007 and that were published in the Dutch Public Health Status and Forecasts Report, a quadrennial report issued by the Ministry of Health, Welfare, and Sport (Poos & Eysink, 2011).

participants, regardless of their gender, would be able to easily identify with the patient in the video.

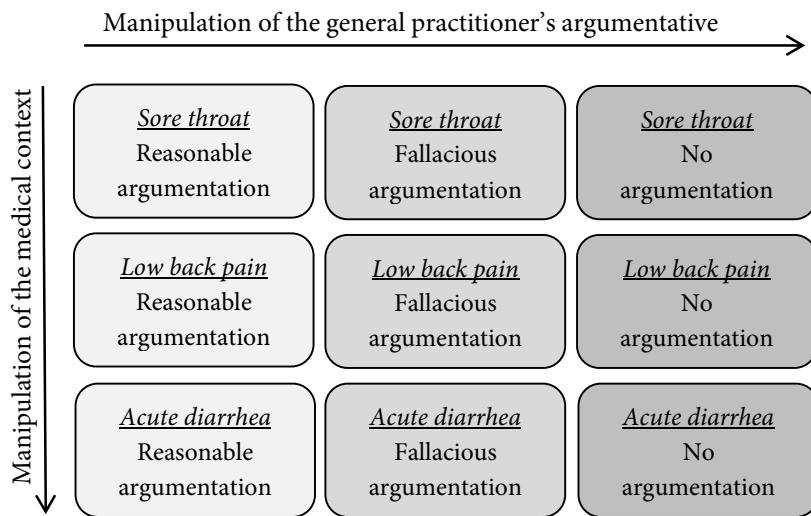


Figure 6. An overview of the experimental conditions

The scripts for the video-vignettes were developed on the basis of transcripts of real videotaped consultations as well as the official medical guidelines concerning the three medical conditions.⁶ In terms of the structure of the consultation, particular attention was paid to turn-taking between doctor and patient and standardized information-giving sequences in actual treatment discussions. Starting from the transcripts, a basic structure was designed for each of the medical scripts. All scripts opened with the doctor providing a brief summary of the history-taking and examination phase and his diagnosis. This was followed by the general practitioner's medical recommendations. Subsequently, and before the final closing sequence, in each script the general practitioner emphasized the

6. The videotaped consultations that were used as examples in this study were obtained through the database of the Netherlands Institute for Health Services Research (2007-2008).

possibility for the patient to come back to see him in case symptoms would persist or worsen. For the respondents to easily identify themselves with the patient, the patient's responses were kept neutral and constant throughout the vignettes.

Provision of argumentation. The general practitioner's medical recommendations and their supporting arguments were based on medical guidelines provided by The Dutch College of General Practitioners. For each medical condition, an advice *in favor* of a certain action was formulated as well as an advice *against* another action (i.e., two-sided refutational message).⁷ Depending on the medical condition, the doctor's advice included information about, for instance, the medicine, the recommended dosage, and the schedule. For each condition in total seven explicit, medical arguments were identified. In addition to the number of recommendations and arguments provided, argument placing was kept constant across the vignettes. Due to the unique nature of each medical condition, the distribution of the arguments supporting the recommendations differed slightly across the vignettes. Also, from an argumentation theoretical point-of-view, the structural relationships between the various arguments varied somewhat between vignettes.⁸ For each medical condition, in addition to the

7. Meta-analyses investigating the effects of different message types demonstrate that two-sided refutational messages, in which opposing arguments are acknowledged and actively addressed, are more persuasive than one-sided messages, in which the existence of opposing arguments is not acknowledged. These messages, in turn, are more persuasive than two-sided non-refutational messages, in which opposing arguments are recognized but not addressed (Allan, 1991; O'Keefe, 1999).

8. While across the different vignettes some recommendations were supported by only one argument (*single* argumentation), others were supported by more arguments (*multiple* argumentation). In addition, the structural patterns in terms of argument *coordination* (series of connected, cumulative arguments) and *subordination* (set of hierarchically structured arguments) differed per medical vignette.

vignette containing argumentative support for the medical recommendations, a vignette was created in which the general practitioner did not provide any argumentation for his advice. These vignettes served the purpose of experimental control.

Reasonableness of the argumentation. To account for the effects of the presence of argumentative support for treatment advice on the dependent variables, as well as for the effects of the reasonableness of the argumentation, for each of the medical conditions the identified lines of argument described in the above were manipulated using the pragma-dialectical theory of argumentation (van Eemeren, Garssen, & Meuffels, 2009; van Eemeren & Grootendorst, 1992). In the pragma-dialectical theory of argumentation it is assumed that arguers ideally aim to arrive at a resolution of their difference of opinion by means of a critical discussion procedure that is both rational and reasonable. The basic principles underlying such a reasonable discussion process are represented by a set of ten discussion rules that together form the theoretical definition of a critical discussion. When they are not abided by, the resolution of the disagreement is said to be hindered or impeded. Such an impediment, in pragma-dialectics, is considered to be an *unreasonable* or *fallacious* move of argumentation (van Eemeren & Grootendorst, 1992).⁹ To ensure an effective manipulation while at the same time maintaining ecological validity, three out of the seven reasonable arguments were replaced by a fallacious move of argumentation on the doctor's part. Taking into account general practitioners' legal obligation to provide all relevant information to the patient to facilitate the decision-making process, it was decided to include three pragma-dialectical fallacies that would not only be deemed unreasonable from a broad argumentation theoretical perspective,

9. For a complete overview over the pragma-dialectical discussion rules and the rule violations (fallacies), see van Eemeren and Grootendorst (1984; 1992).

but that were also viewed to inherently violate the rules and norms set by the institutional context: (1) *evading the burden of proof*, (2) *shifting the burden of proof*, and (3) *declaring a standpoint sacrosanct*. In each of the three fallacies, the general practitioner's discussion move amounted to neglect on the doctor's part to provide reasoning following the patient's request for argumentation. In addition to their relevance given the institutional norms and conventions in general practice consultation, these particular fallacies were also chosen in light of prior research conducted on the perceived reasonableness of fallacious argumentative moves (van Eemeren, Garssen, & Meuffels, 2009). This research showed that ordinary arguers indeed recognize these fallacies as unreasonable contributions to an argumentative discussion that hinder the resolution process (p. 206). The three fallacies will be discussed separately below.

First, in each vignette the general practitioner responded once to the patient's expression of doubt (voiced in the form of short, interrogative utterances such as *really?* or *is that so?* or, more explicitly, *pain medication?*) by *evading the burden of proof*, presenting his advice as self-evident. An example of such an evasion of the burden of proof is given below:

(1) *Low back pain, evading of the burden of proof*

Doctor: I would advise you to continue your daily activities as much as possible and to use a pain medication, like ibuprofen for example, if necessary.

Patient: Pain medication?

Doctor: Yes, well, a pain medication, that speaks for itself.

Second, disregarding his legal and ethical, but also social discursive obligation to defend his medical recommendations when asked to do so, in each fallacious vignette, the general practitioner once *shifted the burden of proof* onto the patient, asking the doubting patient to prove that the doctor's advice is wrong. Again, an example is provided below:

(2) *Sore throat, shifting the burden of proof*

- Doctor:** I would advise you to drink cold fluids and to take some pain medication, like Tylenol for example, during the day.
- Patient:** Pain medication?
- Doctor:** Why wouldn't you?

Finally, in each fallacious vignette, the general practitioner once refused to provide further argumentation for his medical recommendation by *declaring the advice sacrosanct*, suggesting that the advice is beyond discussion and discouraging all opposition from the patient. An example, taken from the diarrhea vignette, is shown below:

(3) *Diarrhea, declaring the advice sacrosanct*

- Doctor:** Drinks that contain sweeteners, like sorbitol and xylitol, or a lot of sugar can worsen your symptoms.
- Patient:** Is that really so?
- Doctor:** I am not going to discuss that now.

The procedures described in the above resulted in nine preliminary scripts for the experimental video-vignettes. These scripts were role-played and videotaped to – amongst others – ensure a natural flow of the conversation, fine-tune wording, and

pausing, and to determine the preferred camera angles. It was decided to use a camera angle in which the general practitioner looked straight into the camera, making eye-contact with the invisible, yet audible patient (and thus the participant). After this first trial round, the scripts were improved.

Subsequently, a panel of nine doctors, communication scholars, and general practice patients was assembled to validate the scripted video-vignettes in various validation rounds. Each panel member was randomly assigned to three scripts: one script containing reasonable argumentation, one including unreasonable argumentation, and one script without argumentation. To establish the scripts' external validity, they were asked to rate the written vignettes' realism on a 5-point Likert scale. Moreover, to determine the success of the manipulations and thereby assess the internal validity of the study, the panelists were asked to score the extent to which they perceived the doctor to provide arguments in support of his recommendations provided and the extent to which they perceived the doctor's contributions to the discussion as reasonable. Finally, panelists were asked to provide additional comments concerning the doctor's advice and the overall vignettes. The results and comments provided by the validation panel were used to adjust the scripts once more.

In the meantime, a professional actor was recruited through an extensive selection process in which twelve professional actors (all native speakers of English) auditioned using the reasonable low back pain vignette. The videotaped auditions were shown to the members of the validation panel, who rated the actors according to their acting skills and realism portraying a general practitioner. A 32-year-old, white male was selected as the best fit for the particular study purpose.¹⁰ During a training session, all

10. The professional actor that was selected had a background in dietetics in a hospital setting and, as such, also had experience in seeing patients.

scenarios were role-played by the actor and the principal researcher, the latter taking up the role of the patient. As it was not the intention to portray the 'fallacious' general practitioner as being condescending in his tone, but rather to study the effects of doctors' unreasonable discussion moves, particular attention was paid to the doctors' consistent intonation and non-verbal communication across the videos. The validation panel commented once more videotaped vignettes and the scripts were subsequently improved. All final video-vignettes were filmed in one take to allow for a natural flow of communication.

6.3.4 Measurements

Standardized questions were used to measure socio-demographic aspects such as participants' age, gender, educational level, employment status (including experience working in the medical sector), last general practice visit, self-reported health status, health literacy, prevalence of chronic illness, and experience with the medical conditions displayed.¹¹ The online survey included validated as well newly formulated measures for all dependent variables of interest. These will be described separately below.

Participatory decision-making style. To measure the general practitioner's perceived decision-making style, a 3-item scale developed by Kaplan, Greenfield, Gandek, Rogers, & Ware (1996) was used.¹² Kaplan et al. define a participatory decision-

11. Educational level and employment status were measured using standardized questions used by the United States Census Bureau. Health status was measured on a 6-point Likert scale in which participants were asked to rate their overall health compared to others their age. Health literacy was measured using the three screening questions developed by Chew, Bradly, and Boyko (2004).

12. Instead of the 5-point Likert scale used by Kaplan et al. (1996), for consistency reasons a 7-point scale was used.

making style as the doctor's propensity to offer patients choices among treatment options and to give them a sense of control and responsibility for care. The three items of the scale reflect this definition.

Ethos/credibility. To measure the general practitioner's perceived ethos or credibility, use was made of a bipolar scale developed by McCroskey and Teven (1999). The instrument contains 18-items – or adjective pairs – across three dimensions. While the *competence* dimension pertains to the participant's perception of the doctor as having knowledge or expertise, *caring* refers to the degree to which the participant perceives that the doctor has the patient's best interests at heart. *Trustworthiness*, finally, involves the degree of trust the participant has with the general practitioner (Paulsel, Richmond, McCroskey, & Cayanus, 2005). In this study, participants were asked to indicate their impression of the doctor by providing a score from 1 to 7 between each of the two adjectives, with the proximity of the number to an adjective indicating the participant's tenacity making the evaluation.

Acceptance of the advice. In line with van Eemeren and Grootendorst (1984), the acceptance of a treatment advice was conceptualized as the perlocutionary effect that is intended by the doctor expressing the advice and that is – at least partly – based on the patients' understanding as well as rational considerations (p. 69). As such acceptance, or rejection, of a treatment advice was seen as the externalization of the perlocutionary effect of convincing by which the patient shows his commitment, positively or negatively, to the expressed advice.¹³ Three items were formulated to measure participants' acceptance of the advice, inquiring about the extent to which the

13. Thus, while the term *conviction* was viewed to refer to a state of mind, *acceptance* was conceptualized as the externalized statement by which the participant expresses a commitment towards the advice.

participants were convinced, deemed the advice acceptable, and felt the advice was adequate. The total acceptance score was calculated on the basis of the mean of the three items, which were all measured on a 7-point Likert scale.

Recall of the advice. Similarly to the procedure followed by Bartlett et al. (1984), participants' (immediate) recall of the treatment advice was measured by requesting them to describe (1) the name of the medicine recommended by the doctor, if any, (2) the dosage recommended by the doctor, if any, (3) the schedule of the drug recommended by the doctor, if any, (4) the additional advice provided by the doctor, if any, and (5) the specific advice provided by the doctor against a certain action, if any. The total recall score consisted of the mean of the participants' answers to the five aspects of their regimen, which were scored post-hoc by the principal researcher on a 3-point scale with a score of 2 indicating that the advice was partially recalled.

Intended adherence to the advice. According to Hayes (2007, p. 420) "single-item scales have been shown to be valid tools for measuring intention to perform health behaviors and highly correlate with actual performance of the behaviors". To measure patients' intent to adhere to the doctor's treatment recommendation, therefore, use was made of a single-item, 7-point Likert scale. Participants were asked: "as the patient, how likely is it that you will follow the doctor's overall treatment advice?"

6.4 Results

6.4.1 Randomization check

To ensure that the results could be ascribed to the manipulation of the independent variable across the experimental groups rather than to in-between group differences concerning, for instance, socio-demographic and health status, a number of randomization checks were performed using one-way analysis of variance and

contingency coefficients. These checks showed no significant differences across the nine groups in terms of participants' age, gender, educational level, employment status (including experience working in the medical sector), last general practice visit, self-reported health status, health literacy, prevalence of chronic illness, and experience with the medical conditions displayed in the video-vignettes. The same results were found across the three overarching experimental groups (*reasonable*, *fallacious*, and *no argumentation*). As expected, across the groups, the majority of participants indicated they had suffered from a sore throat (88.5%), low back pain (65.0%), and diarrhea (76.7%) at least once during their lifetime.

6.4.2 *Manipulation check*

To test whether the manipulation of the independent variable was successful, it was first measured on a 7-point Likert scale, ranging from *definitely no* to *definitely yes*, to what extent participants believed the general practitioner to have provided them with reasons to support or explain his treatment recommendations. One-way analysis of variance showed significant between group differences confirming the manipulation of the experimental vignettes ($F(2, 431) = 32.33, p < .001$). Posthoc analyses, using Bonferroni's post hoc criterion for significance, indicated that the general practitioner advancing reasonable argumentation was indeed perceived to be significantly more argumentative (in terms of providing reasons) ($M = 6.06, SD = 1.10$) than the general practitioner providing fallacious argumentation ($M = 4.82, SD = 1.94$), as well as the general practitioner that did not support his treatment recommendations with argumentation ($M = 4.51, SD = 1.98$). The difference between the last two groups, however, was not significant.

The manipulation of the vignettes in terms of their (un)reasonableness was controlled for too. Participants who had received a vignette containing argumentation

were asked to judge the reasonableness of the discussion moves made by the general practitioner during the consultation. Largely in line with van Eemeren, Garssen, and Meuffels (2009), the discussion moves were written out in the form of short discussion fragments consisting of three turns: an advice provided by the doctor, followed by the patient's expression of doubt and, finally, the doctor's response. For each fragment, participants were asked "how reasonable do you consider the doctors' second contribution?" (7-point Likert scale, from *highly unreasonable* to *highly reasonable*).

The participants' judgments of the fallacious discussion moves provided in the unreasonable vignettes were compared to participants' judgments of the sound counterparts of these moves, which were provided in the reasonable vignettes. The results show that participants who received the fallacious fragments indeed perceived these discussion moves as more unreasonable than participants who received the comparable, reasonable fragments. Moreover, in general participants considered the fallacies as unreasonable discussion moves, while they regarded the non-fallacious arguments as reasonable contributions to the discussion. These findings are highly comparable to the results found by van Eemeren, Garssen, and Meuffels (2009). The results are summarized in Table 6.

Table 6
Average reasonableness scores for the fallacies and their non-fallacious counterparts

	Reasonable argumentation	Fallacious argumentation
1. Fallacy of declaring a standpoint sacrosanct	5.36	2.66
2. Fallacy of shifting the burden of proof (non-mixed difference of opinion)	6.00	2.62
3. Fallacy of evading the burden of proof (non-mixed difference of opinion) by introducing the advice as evident	5.59	3.50
4. Fallacious arguments across vignettes		3.14
5. Reasonable arguments across vignettes	5.48	

6.4.3 *Hypotheses*

To test the study's hypotheses, one-way analyses of variance were performed to determine whether there were differences among the groups that had received the vignettes containing *reasonable*, *unreasonable*, and *no argumentation* in terms of their perception of the general practitioner as engaging in a participatory decision-making style, their perceptions of the general practitioners' ethos/credibility, participants' acceptance of the treatment advice, and their recall of the advice. In addition, one-way analyses of variance were conducted to study the effect of the disease context on these outcome variables. Subsequently, chi-square tests were used to assess the relationships between perceived participatory decision-making style, perceived ethos/credibility, participants' acceptance and recall of the medical advice and their intention to adhere to the advice. Lastly, the association between perceived ethos/credibility and acceptance of the treatment advice too was measured using Pearson's chi-square test.

Provision of argumentation and perceived participatory decision-making style. The one-way analysis of variance that was conducted to determine any between difference among the groups in terms of their perception of the general practitioner as engaging in a participatory decision-making style (3 items: $\alpha = .82$) showed a significant effect ($F(2, 431) = 8.20, p < .001$). Posthoc analyses, using Bonferroni's post hoc criterion for significance, located this difference between the group that had received the reasonable vignettes on the one hand ($M = 4.93, SD = 1.40$), and the two remaining groups on the other (*fallacious*: $M = 4.43, SD = 1.47$; *no argumentation*: $M = 4.27, SD = 1.37$). There was no significant difference between the groups that had received the fallacious vignettes and the vignettes containing no argumentation. The same analyses were used to determine whether there was an effect of the disease context on perceived

participatory decision-making style. No significant results were found ($F(2, 431) = .67, p = .51$).

Provision of argumentation and perceived ethos/credibility. Also the analyses concerning participants' perceptions of the general practitioners' ethos/credibility (18 items: $\alpha = .97$; competence: $\alpha = .95$; goodwill: $\alpha = .95$; trustworthiness: $\alpha = .96$) were found to be significant ($F(2, 431) = 6.34, p < .001$). Again, Bonferroni's posthoc analyses showed this effect to be located between the group that had received the reasonable vignette ($M = 5.53, SD = 1.21$), and the other two groups (*fallacious*: $M = 5.09, SD = 1.29$; *no argumentation*: $M = 5.06, SD = 1.30$). A one-way analysis of variance focusing on the relationship between the disease context and perceived ethos/credibility this time did show a significant effect ($F(2, 431) = 3.75, p < .05$). Posthoc analyses located this difference to be between the sore throat condition ($M = 5.44, SD = 1.21$), on the one hand, and the low back pain and diarrhea condition on the other (*low back pain*: $M = 5.02, SD = 1.29$; *diarrhea*: $M = 5.24, SD = 1.30$).

Provision of argumentation and advice acceptance. One-way analysis of variance showed a significant between group difference with regard to participants acceptance of the general practitioners' treatment advice (3 items: $\alpha = .96$) ($F(2, 431) = 13.75, p < .001$). Results indicated that the average acceptance score was significantly higher in the reasonable argumentation condition ($M = 5.63, SD = 1.23$) than in the unreasonable condition ($M = 4.99, SD = 1.51$), as well as the condition without argumentation ($M = 4.74, SD = 1.61$). Also a significant effect of the disease context was detected ($F(2, 431) = 9.70, p < .001$). A rerun of the analyses for each of the specific medical conditions showed that in the context of a sore throat provision of argumentation does not have a significant effect on participants' acceptance of the medical advice ($F(2, 125) = 1.47, p = .23$). A significant effect of argumentation was detected for both the low back pain ($F(2, 146) = 4.26, p < .05$) and the diarrhea condition

($F(2, 154 = 16.08, p < .001$). However, within these conditions no significant difference was detected between the fallacious vignettes and the vignettes without argumentation.

Provision of argumentation and advice recall. One-way analysis of variance did not show an effect of provision of argumentation on advice recall ($F(2, 431 = .57, p = .57$). However, a significant between-group difference was found across the different disease contexts ($F(2, 431 = 55.20, p < .001$). The group that received a vignette concerning diarrhea recalled the information best ($M = 2.57, SD = .41$), followed by the sore throat vignette ($M = 2.16, SD = .49$) and the low back pain vignette ($M = 2.03, SD = .49$). It was assumed that participants recall had likely been influenced by the difficulty and specificity of the recommendations provided by the general practitioner across vignettes – i.e., the operationalization and subsequent measurement of the information that had to be recalled.

Perceived ethos/credibility and advice acceptance. A Pearson product-moment correlation coefficient was computed to assess the relationship between the perceived ethos/credibility of the general practitioner and participants' acceptance of his medical advice. The results showed a strong, positive correlation between the two variables ($r = 0.66, n = 434, p < .001$). Increases in participants' perceptions of the doctor's ethos/credibility were associated with increases in their acceptance of the treatment advice.

Perceived participatory decision-making style and intention to adhere. Similar analyses showed a strong , positive association between participants' perceptions of the general practitioners' participatory decision-making style and their intention to adhere to his recommendations ($r = 0.56, n = 434, p < .001$).¹⁴ The more participants deemed the

14. As the value for skewness (-1.25) did not fall within the range of twice the standard error (-.23 to .23), the data had to be considered significantly, non-normally distributed. Therefore, the results pertaining to

doctor to engage in a participatory decision-making style, the higher their intention to adhere to his medical advice.

Perceived ethos/credibility and intention to adhere. Pearson's correlation coefficient showed similar results for the relationship between participants' perceptions of the general practitioner as a credible source and their intention to follow his medical advice ($r = 0.58$, $n = 434$, $p < .001$). Participants that scored the general practitioner higher on credibility, reported a higher intention to adhere to his advice.

Advice acceptance and intention to adhere. A strong, positive correlation between participants' acceptance of the medical advice and their intention to adhere to advice was found ($r = 0.79$, $n = 434$, $p < .001$). Increases in participants' acceptance of the doctors' recommendations were associated with increases in their intentions to adhere to the advice.

Advice recall and intention to adhere. Finally, Pearson's correlation coefficient showed no or a negligible relationship between participants' recall of the general practitioner's recommendations and their intention to follow his medical advice ($r = 0.18$, $n = 434$, $p < .001$). Moreover, a one-way analysis of variance showed a significant between-group difference relating the disease context to participants' intention to adhere ($F(2, 431) = 3.70$, $p < .05$). This provided support for the suspicion that the disease

intended adherence have to be interpreted with some caution. Yet, it is frequently observed in the literature that participants report a very positive intention to adhere. This can in part be explained by the fact that participants have a tendency to report socially desirable answers. As in this study different experimental groups were compared in terms of their intention to adhere and relative between-group differences were indeed observed, the data concerning participants' intention to adhere were deemed valuable despite of its skewness.

context, and thus the way in which recall was operationalized and measured, impacted the study results related to advice recall.

6.5 Discussion

6.5.1 Summary of findings

The results – which are illustrated in Figure 7 – largely confirm the study's hypotheses. General practitioners' provision of reasonable argumentation to support their treatment advice leads analogue patients to perceive their doctor as more participatory in his decision-making style and simultaneously more credible as a medical expert. Moreover, when general practitioners advance reasonable arguments for their recommendations, analogue patients are generally more likely to agree with the acceptability of the medical advice. Doctors' provision of argumentation thus seems to matter. In addition, the study demonstrates that general practitioners' perceived ethos/credibility is positively associated with agreement with the medical advice. This means that the more participants consider their doctor as a credible source, the more likely they are to accept his medical advice and vice versa. These findings correspond to findings by Pornpitakpan (2004) on the relationship between source credibility and persuasion.

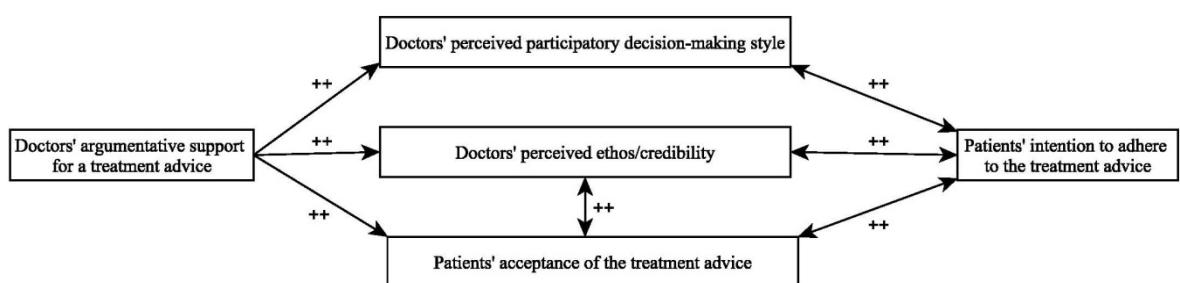


Figure 7. Results pertaining to the effects of argumentation

Note: ++ indicates that the relationship was found to be significant at the $p < .001$ level.

In contrast to the initial assumptions, no differences were found between the vignettes in which the general practitioner adduced *fallacious* argumentation and the vignettes in which *no* argumentation was provided in terms of the perceived argumentativeness, perceived decision-making style and credibility, and acceptance. Thus, providing unreasonable arguments and providing no arguments appeared to be equally (in)effective in the present study. While this finding emphasizes the importance of doctors' usage of *reasonable* argumentation, these results may have – at least in part – been caused by the particular choice of fallacies used in this study, as in fact each of the three types of fallacies amounted to the general practitioner's negligence of his institutional and social obligation to provide a rationale for his recommendations.

The findings also demonstrate that patients' perceptions of their doctor's participatory decision-making style, ethos/credibility, and their acceptance of the medical advice are all associated with patients' intention to adhere to the medical recommendations given by the doctor. That is, the more patients perceive their doctors as participatory decision-makers and credible experts and the more likely they are to accept the advice, the more likely they are to adhere to the doctor's recommendations. As such, the full pathway from argumentation via proximal outcomes to intended adherence seems a promising one.

6.5.2 Limitations and future research

Given that the study relied on simulated patients' self-report and that their overall intention to adhere appeared to be relatively high – in line with expectations – it could be relevant to explore participants' motivations to adhere qualitatively. Qualitative explorations could be used to identify other possible 'drivers' of adherence that have not been taken into account in the present study. Patients' prior knowledge concerning their medical condition could be such a potential driver of adherence.

The results showed that participants perceived the general practitioner of the sore throat condition as a more credible expert. Moreover, his medical recommendations pertaining to the sore throat were more readily accepted by participants, without the doctor's argumentation having an effect. Also, participants that received the sore throat vignette were more likely to follow up on the doctor's advice. Together, these results suggest that participants held a clear and steadfast opinion about the treatment of a sore throat prior to the consultation. While the design including multiple health conditions was purposefully chosen to generalize beyond a single medical complaint, future studies should control for prior knowledge – rather than mere experience – as a potentially explanatory variable.

Experimental research, as pointed out at the beginning of this paper, has the advantage that it can be used to detect causality. However, due to the highly controlled circumstances that are imperative to establish causal relationships, experimental research often falls short on ecological validity. In the present study, simulated, healthy patients were asked to provide their insights concerning a role-played medical consultation centering around a hypothetical medical complaint. The artificial setting is a clear limitation of the study. However, the study design was deemed appropriate as it was primarily aimed to explore the potential effects of argumentation, rather than to generalize research findings to a specific population. In addition, the medical conditions were chosen thus so that participants would be able to identify easily with the patient. Moreover, an elaborate validation procedure was followed to ensure the accuracy and realism of the video-vignettes in terms of their medical content and the general practitioner's (un)reasonable argumentation.

The present study neither showed a significant, causal relationship between general practitioners provision of argumentation and participants' recall of the medical advice, nor between participants' recall and their intention to adhere to the advice. As a

significant, between-group difference was detected relating the medical condition to participants' recall, it is likely that the insignificant findings can be ascribed to limitations concerning the operationalization and measurement of advice recall. Due to the particular nature of each of the three medical conditions under study, the general practitioner's recommendations varied across the vignettes. While the low back pain vignette contained relatively elaborate and specific information concerning the dosage and schedule of the medication, the diarrhea vignette did not. As a result, the recommendations provided were more easily recalled for the diarrhea complaint than for any of the other complaints. In addition, open-ended questions were used to measure participants' recall. Answers were coded post-hoc by the principal researcher on a 3-point scale, rendering direct and precise measurement difficult. Future studies focusing on argumentation and recall should address these issues concerning argument recall.

Moreover, the present results give rise to additional research questions. For instance, to what extent does participants' recall of single arguments contribute to their remembrance of the general practitioners' overall advice? In the present study only participants' recall of the several aspects of the advice was measured. Along a similar line, it is also conceivable that the number of arguments provided affects participants' recall. How many arguments are needed for a participant to remember an advice? Can a doctor give too many arguments? Furthermore, for all relationships that were found it can be asked how the described effects last. For example, will doctors who provide reasonable argumentation also be seen as more credible in the long run? Does patients' agreement with their reasonable doctor's advice change over time? Future studies should address these questions. Furthermore, the role of general practitioners' argumentation in the context of chronic and severe medical conditions should be investigated. While in the former case patients are often highly knowledgeable and, therefore, potentially also have stronger personal preferences concerning treatment, in the latter situation patients may

become less ‘argumentative’ than in the context of an uncomplicated general practice complaint.

From an argumentation theoretical point of view, questions pertaining to the effects of the argument schemes, the argumentation structure, and the argument content are still pending. What effects do these have on the outcome variables described in the present study? Moreover, taking such an argumentation theoretical approach, the reasonableness perceptions and effects of different fallacies should be more systematically explored in an experimental setting and compared to the findings by van Eemeren, Garssen, and Meuffels (2009). When doing so, however, a close eye should be kept on the ecological validity and, thereby, realism of these experiments to avoid ‘unreasonable’ portrayal of doctors’ use of fallacious arguments.

6.6 Conclusion

General practitioners’ provision of argumentation for their treatment advice has frequently been argued to comply with a patient-centered approach to the medical consultation. This study supports this view by showing that doctors who advance reasonable arguments are perceived as more participatory decision-makers. Yet, this study simultaneously demonstrates that general practitioners who provide argumentation are also viewed as more credible experts. They are considered more trustworthy, competent, and caring. One-way to improve doctors’ communication competence, consequently, would be to train them how to adduce reasonable arguments for their advice. By giving reasonable arguments for their recommendations, general practitioners can maintain a balance between keeping a patient-centered focus and establishing their role as a medical authority. As such, providing argumentation does not only comply with the ideal of patient-centeredness, but also with the standard of

evidence-based medicine – two paradigms that in the past have often been viewed as incompatible.¹⁵ Moreover, in addition to adhering to legal, ethical, and social discursive norms and objectives, doctors' provision of argumentation can also serve a pragmatic cause: to facilitate patients' acceptance of, and adherence to, medical advice. Thereby a true sharing of decisions can be characterized as a reasonable exchange of medical and personal arguments that leads to a mutually agreed decision and, consequently, patients' convinced adherence.

15. See Bensing (2000) for a discussion of the two paradigms and the challenge to bridge the gap between them.

Chapter VII

Conclusion

Nanon Labrie

7.1 General summary of the findings

In his book the *Laws* (Book IV), Plato observes that a distinction can be made between two classes of doctors. The doctor to slaves, on the one hand, does not provide an account of his findings to his patients and does not allow patients to talk about their individual complaints. He diagnoses his patients on the basis of what mere experience suggests, assuming that he holds all knowledge for doing so, and he gives orders to his patients with the manners of a dictator. By contrast, the doctor of free men goes about his inquiries thoroughly. He enters into discourse with his patients and asks them for information, instructing them as far as he is able on the basis of scientific evidence. The free doctor does not prescribe treatment to his patients until he has first convinced them of its effectiveness and only once he has brought his patients under his persuasive influences, does he attempt to effect a cure (Plato, trans. 1937).

Plato's observation is still remarkably relevant today. In classical antiquity, slavery was common practice and an integral component of culture. Nevertheless, descriptions of present-day doctors' communication styles bear an apparent resemblance to Plato's ancient account. While the doctor of slaves attempts to cure his patients by taking an authoritative role – a style that today would be defined as essentially *paternalistic* in nature, the doctor of free men engages in a coequal treatment discussion with his patients. Contemporary models would characterize this as a *patient-centered* approach to doctor-patient communication.

Noticeably, in his description Plato refers to free doctors' aim to *convince* their patients of the acceptability of their treatment recommendations while simultaneously striving to *persuade* them to adhere to their medical advice. Thereby Plato can be seen as one of the first to make reference to the essentially argumentative nature of general practice consultation. Yet, despite Plato's early observation, surprisingly few

contemporary scholars have carefully examined general practitioners' use of argumentation in medical consultation. Medical researchers have extensively focused on the role, characteristics, and effects of general practitioners' communication in general. They have argued that communication processes serve a central clinical function in healthcare, as doctors' effective communication can enhance the doctor-patient relationship and, moreover, predict and positively influence the outcomes of the medical consultation, including the patient's health (e.g., Fong Ha & Longnecker, 2010; Ong, de Haes, Hoos, & Lammes, 1995; Street, Makoul, Arora, & Epstein, 2009). However, similar research focusing on the argumentative aspects of doctor-patient communication thus far lacked. The present project aimed to fill this gap.

The individual studies included in this dissertation jointly served to demonstrate the relevance and potential of theory-driven research on the role, characteristics, and effects of argumentation in general practice consultation. Chapter II reported on the results from an extensive and systematic review of the literature that was aimed at exploring to what extent scholars from different fields had used theories and concepts of argumentation to analyze, understand, facilitate, and improve the argumentative interaction between doctors and their patients. While the review confirmed that overall a limited number of studies have been dedicated to the role of argumentation in medical consultation, it also showed that attention to the topic has been increasing steadily over the past decade. Researchers from the fields of argumentation theory, discourse analysis, medical information science, and medical ethics have developed, used, and applied argumentation theoretical concepts and tools to advance (the study of) doctor-patient interaction. The review also laid bare the opportunities for further, interdisciplinary investigation of argumentative discourse in general practice consultation. Studies into this topic rarely appeared the result of a collaborative effort across different disciplines. In addition, quantitative explorations were rare. In order to further argumentation

research in the context of general practice consultation, therefore, it was argued that researchers from diverse (methodological) backgrounds should join forces. With this dissertation project an attempt was made to provide such an interdisciplinary, multi-method approach to the role, characteristics, and effects of general practitioners' argumentation. Both qualitative and quantitative methods were applied. To inform the research design, construct conceptualization and operationalization, as well as the analyses in the different studies, use was made of the (extended) pragma-dialectical theory of argumentation (van Eemeren & Grootendorst, 1984; 1992; 2004; van Eemeren & Houtlosser, 2002; 2006).

Chapter III discussed the findings from a qualitative study in which the dialectical profile for establishing starting points (van Eemeren, Houtlosser, & Snoeck Henkemans, 2007, p. 90) was used to illustrate how doctors may strategically create common ground with their patients and, as such, start the treatment decision-making discussion in a reasonable, yet favorable way. It was illustrated that, for instance by asking (rhetorical) questions (e.g., *It's probably caused by repeated viruses, right?*) or implying patients' acceptance with a certain point of view (e.g., *I'm sure you know that antibiotics do not affect viruses*), doctors can quickly and efficiently appeal to their patients' expertise while simultaneously eliciting 'concessions'. In addition, it was shown how doctors may strategically refer to the rules of the institutionalized context (e.g., the legal obligation of confidentiality) when striving to strategically add a proposition to the set of commonly shared starting points.

While Chapter III aimed to demonstrate the relevance of qualitative analyses, Chapter IV argued for the importance and potential of the additional use of quantitative research techniques when studying argumentation in the context of general practice consultation. Chapter IV elaborately described the development and preliminary results of an observational content analysis of 70, randomly drawn and representative

videotaped medical consultations. It proved that – when carefully designed and executed – content analysis can provide a powerful tool to guide the quantitative analysis of argumentation in general practice. The described coding procedures yielded valid, reliable, and largely generalizable results. Despite some methodological challenges, which were discussed in depth in Chapter IV, the results affirmed the importance of quantitative analyses to complement the – currently predominant – qualitative endeavors to characterize medical consultation as an *argumentative activity type* (e.g., Labrie, 2012; Pilgram, 2009; Snoeck Henkemans & Wagemans, 2012).

Based on the results from the quantitative content analysis, Chapter V discussed the correlations between general practitioners' provision of argumentation for their diagnoses and treatment advice and several characteristics of the medical encounter. The study found that the number of arguments provided by general practitioners during the consultation was positively associated with lengthier visits and a more participatory decision-making style. Moreover, female doctors were notably found to provide more arguments than their male colleagues. The study findings suggested that doctors' use of argumentation plays an essential role in medical consultation, mediating the relationships between physician gender, visit length, and perceived decision-making style. Moreover, the results showed that providing patients with arguments in support of medical recommendations can be a constructive way for doctors to establish a patient-centered deliberation process.

Finally, Chapter VI described the design and execution of an experimental study using video-vignettes. The experiment, in which a random sample of 434 participants was used, sought to establish the causal relationships between doctors' provision of argumentation and patients' perceptions of their doctors' credibility and participatory decision-making style, patients' acceptance and recall of the medical advice, and, subsequently, their intention to follow up on the advice. Moreover, the study explored

the mediating effect of the pragma-dialectical reasonableness of the argumentation (van Eemeren, Garssen, & Meuffels, 2009; van Eemeren & Grootendorst, 1984; 1992; 2004) on these relationships. Despite some methodological limitations pertaining to the operationalization and measurement and patients' recall, the large majority hypotheses were found to be significant. General practitioners' provision of reasonable argumentation for his treatment advice was found to positively affect patients' perceptions of their doctors as well as their acceptance of, and intention to adhere to, the medical advice. These effects were not observed when the doctor provided unreasonable argumentation or no argumentation at all. Finally, it was found that patients were able to distinguish between those argumentative moves that contribute to the resolution of a difference of opinion in general practice consultations (*reasonable arguments*) and those moves that hinder the resolution process (*fallacious arguments*). This finding corresponded to the results of previous studies on discussants' reasonableness judgments by van Eemeren, Garssen, and Meuffels (2009).

In the introduction to this dissertation it was claimed that by providing (reasonable) argumentation to support their advice, general practitioners can comply with the legal rule of informed consent while simultaneously conforming to the ethical ideal of patient-centered communication. In addition, it was explained that by advancing argumentation, general practitioners are enabled to make explicit the evidence-based rationale that underlies their recommendations. It was argued that argumentation, consequently, can play a key role in bridging the existing gap between patient-centered medicine and evidence-based medicine – two prevailing paradigms that have often been argued to be incompatible (Bensing, 2000). The findings from the quantitative studies reported on in Chapters V and VI illustrate that patients indeed perceive general practitioners who use reasonable argumentation as more participatory in their decision-making style, as well as more trustworthy, caring, and credible in their role of medical

experts. Consequently, by providing argumentations for their advice, general practitioners can effectively maintain a balance between exercising their role as a medical authority and involving the patient in the decision-making process.

Chapters V and VI also outlined some of the more pragmatic reasons for general practitioners to support their recommendations with reasonable argumentation. Not only was general practitioners' use of argumentation shown to positively affect patients' perceptions of their doctors, it was also demonstrated to enhance patients' post-consultation agreement with their doctors' treatment advice. Patients' favorable perceptions of their doctors' patient-centeredness and credibility as well as patients' acceptance of the doctors' treatment advice, in turn, were shown to have a positive effect on patients' intention to adhere to their doctors' advice. In addition to doctors' legal, ethical, and social discursive considerations to do so, providing argumentation can thus also be seen to have practical benefits.

7.2 Implications of the findings and suggestions for further research

The current project was carried out at the intersection between three scientific fields. It combined insights from health communication, medical science, and argumentation theory. Using a variety of methodologies, it was explored to what extent medical (communication) research and practice could profit from the systematic incorporation of argumentation theoretical concepts, models, and analyses. The fact that this project was conducted at the junction between various scientific disciplines contributed to the complexity of the endeavor, but also to its innovative character. As a result of its interdisciplinary focus, the findings described in this dissertation can also be argued to have relevance for health communication scholars, medical practitioners, and argumentation theorists alike.

The present study provides a first step towards a new approach to the study of doctor-patient interaction – an approach in which the inherently argumentative character of the communication between doctors and their patients is taken into account. Provided that the findings stand the test of scientific replication, the present study first and foremost forms a steppingstone for the systematic inclusion of argumentation theory into contemporary models of patient-centered, evidence-based decision-making. Its resolution-oriented conceptualization of argumentative discussions renders the pragma-dialectical theory of argumentation an excellent basis for this. The findings from the experimental study (Chapter VI), which demonstrate patients' ability to distinguish reasonable discussion moves from fallacious moves and moreover show the positive effects of reasonable discussion moves on patients' acceptance of the treatment advice, underscore the value of a pragma-dialectical approach. Future studies should explore the potential of pragma-dialectics to inform other research concerning the various challenges faced in general practice consultation as well. While doctor-patient communication is central to the medical encounter, pragma-dialectics could potentially also shed light on, for instance, doctors' diagnostic and therapeutic decision-making processes (e.g., by informing intelligent system design) and on the communication among doctors and other members of staff (e.g., during hand-over procedures). Scholastic collaboration between trained pragma-dialecticians and health communication researchers could prove highly fruitful when investigating these communicative phenomena.

The present project merely explored some of the possible pathways from general practitioners' argumentation to consultation outcomes. Yet, it can inform hypotheses to guide future research concerning other pathways as well. General practitioners' reasonable and effective use of argumentation may positively influence patients' understanding and remembrance of medical advice by engaging them in a critical

thinking procedure. Due to methodological limitations, the present study did not yield sufficient evidence for the existence of the effect of argumentation on patients' recall. However, informed by the methodological challenges faced in the current project, future studies should provide more conclusive evidence about the relationship between argumentation and, both long- and short-term, advice recall.

Moreover, several studies have argued that patients who feel informed and involved in the decision-making process are more satisfied with the medical visit. Patient satisfaction, in turn, has been positively associated with adherence (e.g., Cousin, Schmid Mast, Roter, & Hall, 2012; Ley, 1989). Future studies may, therefore, focus on testing the possible relationship between general practitioners' use of argumentation and patients' satisfaction as well. In addition, as a result of its positive effects on proximal consultation outcomes, doctors' reasonable argumentation can be hypothesized to indirectly influence intermediate and long-term outcomes, such as better disease management, reduced health-care costs, and, ultimately, improved health outcomes. Future studies in the field of health communication should address these potential effects.

Medical practitioners could (indirectly) benefit from the insights gained in the present dissertation. The observational content analysis as well as the experimental study showed that general practitioners are perceived as more participatory in style and as more credible experts when they provide reasonable arguments for their diagnoses and advice. They are more likely to ensure their patients' acceptance of, and subsequent adherence to, their medical advice. These findings warrant the need for intervention studies that explore the effects of teaching general practitioners how to provide reasonable argumentation for their advice. By training doctors how to engage in a critical discussion procedure with their patients that is both reasonable and effective, the quality of the communicative interaction in medical practice could be improved significantly.

Finally, the present findings may also inform scholars in the field of argumentation theory. First, careful examination of the peculiarities of general practice consultation as an argumentative context provides valuable information about the ways in which discussants' argumentative moves are influenced by the institutionalized setting in which the discussion takes place. Consider, for instance, the distinct roles taken up by the doctor and his patient during the medical visit, the legal and ethical norms that are at play, the time constraints imposed on the discussion, and – not in the least – the fact that a medical visit often concerns issues of vital importance and is, therefore, emotionally laden (Ong, de Haes, Hoos, & Lammes, 1995, p. 903). These aspects all affect the ways in which doctors and patients may argue. This was discussed in Chapter III. Second, the use of quantitative methods in addition to qualitative analyses to study the argumentative character of general practice consultation provides a new angle to the study of argumentation in context. Quantitative methods can, for instance, provide the analyst of argumentation with an overview of the extent to which certain argumentative phenomena occur in a given context and, therewith, even provide a rationale or starting point for further exploration of such phenomena. Third, the present findings demonstrate the practical applicability of the pragma-dialectical framework in the context of doctor-patient communication. This study not only confirmed some of the theoretical assumptions underlying the pragma-dialectical theory of argumentation in the specific context of general practice consultation, but also demonstrated some of the practical benefits for doctors to follow the pragma-dialectical ideal model. By providing argumentation, general practitioners were shown to contribute to the resolution of the treatment decision-making discussion and, simultaneously, increase their patients' intended adherence.

In conclusion it should be pointed out that, even though this dissertation started from a patient-centered conceptualization of the ideal interaction between general

practitioners and their patients, patients' communicative role in medical consultation has not been the main focal point in the present project. Rather, this dissertation focused on general practitioners' responsibility to provide their patients with argumentative support for their diagnoses and treatment recommendations in order to allow for a patient-centered and resolution-oriented discussion to take place. This does however not mean that patients ideally assume the role of passive recipients of their doctors' argumentation – quite the contrary. Ideally, as argued in the introductory paragraphs of this dissertation, patients take up an active role during the treatment decision-making discussion.

A comprehensive account of the role, characteristics, and effects of argumentative discourse in medical consultation should address patients' use of argumentation. Future studies will systematically explore the role of the patient in the treatment decision-making discussion. These studies will not only focus on patients' social discursive responsibility to provide argumentation, but also on the effects of patient characteristics on the argumentative discussion. In light of this, patients' trait argumentativeness (cf. Infante & Rancer, 1982), their predisposition and willingness to engage in argumentative discussions with their doctor, could be of particular interest. A follow-up study to the present project, therefore, will be dedicated to the development and validation of a measurement tool to assess patients' medical argumentativeness.

Finally, it is the task of health communication as a field to advance and refine the quality of communication processes between doctors and their patients. This is particularly relevant in a time in which the field of medicine is increasingly specializing and simultaneously subject to rapid technical developments that can significantly improve patients' health. The present dissertation showed that argumentation theory can provide health communication scholars with an instrumental tool to help achieve this aim.

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