CHAPTER 15

Argumentative insights for the analysis of direct-to-consumer advertising

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In spite of the increasing awareness of the central role that argumentation plays in direct-to-consumer (DTC) advertising, argumentative considerations have not yet been adequately incorporated into the analysis of DTC ads. In this paper, we argue that taking argumentative considerations into account when designing codebooks for the content analysis of DTC ads is necessary in order for the analysis of DTC advertising to be insightful. We critically examine the codebooks used in influential studies in which the method of content analyses is applied to DTC ads in order to highlight the shortcomings of the existing codebooks. For example, because existing coding schemes do not incorporate argumentative insight into the coding schemes applied to DTC ads, these schemes can only identify the recurrence of particular messages but not identify the argumentative role these messages play in the text. We propose an alternative coding scheme that can capture argumentative features of DTC ads which are not captured in the existing coding schemes.

1. Introduction

Among the scholars interested in direct-to-consumer (DTC) advertising, there is more and more interest in examining argumentation in this particular type of ads. On the one hand, the argumentative nature of direct-to-consumer advertising can hardly be overlooked,[1] but on the other hand, this argumentative nature is also

1. It has been shown in studies conducted by Rubinelli (2005) and Rubinelli et al. (2006, 2007) among others, that direct-to-consumer ads exhibit clear argumentative features. Furthermore, it has also been shown that potential consumers recognise these features. For example, in a pilot study conducted by Rubinelli, Nakamoto, Schulz and De Saussure, it is reported that 71 out of the 72 respondents recognised the argumentative structure of the ads they were shown (2006: p. 339).

often the main source of criticism that the opponents of DTC advertising advance. Critics often point out that direct-to-consumer advertising, as the name suggests, is a promotional activity that aims at increasing the sales of the medicine advertised (Chandra & Holt 1999; Gilbody, Wilson & Watt 2005; Mintzes 1998; Wolfe 2002), rather than a source of information that raises the health literacy of the public and allows patients to be more involved in their healthcare, as DTC advertising supporters claim (Auton 2004, 2007; Calfee 2002; Jones & Garlick 2003). In a previous work (Mohammed & Schulz, 2010), we have argued that the argumentative nature of DTC advertising is not necessarily what diminishes its educational potential. Ideally, it is possible for DTC advertising to fulfill both educational and promotional purposes. Promotional purposes do not need explanation. Educational purposes can for instance be pursued by listing side effects and counter-indications (thus emphasizing the necessity of risk-benefit analyses before prescribing), by listing indications (thus defining when a drug can and cannot be prescribed), and by highlighting the suffering or embarrassment associated with a disease (thus raising awareness for the disease).

Ideally, reasonable argumentation can contribute to the promotional and educational aims of DTC advertising, simultaneously. In an ad that advertises a certain medicine (medicine x), it is usually implied that the medicine advertised provides good treatment for a certain ailment (ailment y). A reasonable defense of this claim will react to the doubt of patients who would like to be more involved in their treatment options as well as to the competing claims and arguments of other pharmaceutical companies who promote alternative treatment options to ailment y. Such a defense will provide assistance for the patients in making well-informed decisions and if successful will also convince them to get the medicine advertised,[2] which is in the heart of the promotional interest of pharmaceutical companies.

Our previous analysis of strategic maneuvering in DTC ads suggests that pharmaceutical companies are more interested in getting the claim that promotes their medicine accepted by an audience of consumers rather than by an audience of patients who would like to be more involved in their health care. That is mainly reflected by the choice of relying significantly on arguments that promote the medicine on the basis of qualities that relate to its non-medical attributes (in our earlier study, we have referred to such arguments, which address the non-medical attributes of a medicine, such as the ease of use of a medicine, its cost benefits, and social-psychological enhancements attributes ... etc. as convenience appeals). Such a choice reflects an interest in

2. Because of institutional constraints, namely that patients cannot buy prescription-drugs without prescription from a physician, ads try to persuade patients to ask their doctors to prescribe the medicine advertised to them.

convincing a potential consumer who would certainly care about what is convenient, rather than convincing an active patient who is more concerned with the effectiveness and safety of his treatment option. Even though the findings of our analysis are in line with a significant part of the criticism of the practice of DTC advertising, a test of the generalizability of such findings seems to be necessary.

One of the most common methodologies of testing the generalizability of empirical claims about discourse is the method of content analysis. Quantitative content analysis is a standard methodology in the social sciences for studying, structuring and analyzing the content of communication. It is an effective, systematic, and replicable data reduction technique that helps compressing many words of text or images into fewer content categories based on explicit rules of coding, and it has the appealing feature of being useful in dealing with big volumes of data. In spite of the increasing awareness of the central role that argumentation plays in DTC advertising, argumentative considerations have not yet been adequately incorporated into the content analysis of DTC advertising. Existing coding schemes are not refined enough to capture argumentative characteristics of DTC ads. Most content analyses in the field of DTC advertising are used to depict the variety of information that is delivered in the ads without paying attention to the argumentative structure that links the different statements in the ads.

In this paper, we aim at discussing the possibility of designing a coding scheme to be used in a content analysis study that tests the generalizability of our empirical claims about DTC advertising. We shall first, in Section 2, discuss the state of the art in the study of DTC advertising from the perspective of content analysis. This is intended to highlight methodological characteristics of content analysis in the particular area of DTC advertising. In view of the discussion, we shall, in Section 3, develop a proposal for a coding scheme that tests the generalizability of our claim. In Section 4, we will discuss, briefly, the challenges that face our proposal.

2. The state of the art

One of the most important content analysis of DTC ads, in which the researchers were immediately concerned with the argumentation used in DTC advertising, was conducted by Robert Bell, Richard Kravitz and Michael Wilkes from the Department of Communication, University of California, USA (Bell et al. 2000). Bell et al. analyzed DTC ads of prescription drugs appearing in 18 consumer magazines from 1989 through 1998 (a total of 320 distinct ads representing 101 brands and 14 medical conditions). Their aim was to explore trends in prevalence, shifts in the medical conditions for which drugs are promoted, reliance on financial and nonmonetary inducements, and appeals used to attract public interest.

In order to document the advertising appeals used to enhance a patient's interest in the drugs, each ad was coded for the presence or absence of 42 *keywords* (adjectives, adjectival phrases, or adverbs that reflect claims about the drug's nature or impact). Each advertisement was coded for the use of these descriptors to depict the medicine advertised. After coding for the presence or absence of these terms and phrases, related terms were grouped in (19) categories of *product attributes*. So for example, terms like 'advancement', 'breakthrough', 'a first', the 'only' drug of kind, 'innovative', 'novel' and 'new' were grouped in the attribute category 'Innovative'. These categories were further grouped in four *main 'types' of appeals*: effectiveness, social-psychological benefits, ease of use, and safety. Effectiveness appeals included attributes such as *effective*, *cure*, *dependable*, *innovative*, *powerful*, *prevention*, *reduced mortality* or *symptom control*. Social-Psychological appeals included attributes that relate to *lifestyle*, *psychological benefits* or so*cial enhancements*. Ease of use appeals included attributes such as *convenience*, *easy on system*, *economical* or *quick acting*. Finally, safety appeals included attributes such as *safe*, *natural*, *non-addictive* or *non-medicated* (see Figure 1 below).[3]

Bell et al.'s taxonomy has been used by a number of more recent content analysis of DTC ads, such as the study of Wendy Macias and Liza Stavchansky Lewis, who examined the content and form of 90 DTC drug Web sites (Macias & Lewis 2003)[4] and by researchers at Dana-Farber Cancer Institute in Boston, who examined 75 DTC ads for oncology drugs (15 distinct ads) that appeared in three cancer patient-focused magazines, CURE, Coping with Cancer and MAMM, in 2005 (Abel et al. 2007).[5]

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3. Bell et al. (2000) report that, in the ads they analysed, the categories of appeals used most frequently are *effective*, used in 57% of ads, *controls symptoms* and *innovative*, used in 41% of the ads each, and *convenience*, used in 38% of the ads. The rest of the categories appeared in the following frequencies: *prevents condition* (16%), *nonmedicated* (14%), *psychological enhancement* and *safe* (each in 11% of the ads), *powerful* (9%), *reduced mortality* and *natural* (each in 7% of the ads), *lifestyle enhancement* and *quick acting* (each in 6% of the ads), *economical* and *not addictive* (each in 5% of the ads), *dependable* (4%), *cures*, *easy on system* and *social enhancement* (each in 3% of the ads).

4. Macia and Lewis (2003) report that in comparison with print ads, DTC sites offer more monetary incentives but provide a much higher degree of medical and drug information. Consequently, DTC sites are better suited to fulfilling Food and Drug Administration (FDA) guidelines, they argue.

5. Abel et al. (2007) report that in DTC ads for oncology drugs, more appeal to effectiveness is made than appeal to safety. It is reported that the ads are difficult to read and that the text outlining the benefits has the highest readability score. It is also reported that even though the amount of text devoted to benefits versus risks and side effects was roughly the same information on benefits was more prominent. According to Abel et al. information about benefits appeared in the top third of the advertisement text while descriptions of side effects and risks

TABLE 2

Taxonomy of advertising appeals

Claimed attribute	Description of Drug
Effectiveness	
Effective	"effective," has a "proven" therapeutic benefit, "works"
Cure	Provides a "cure" for condition
Dependable	"reliable," "dependable"
Innovative	"advancement," "breakthrough," "a first," "new," "novel," "only" drug of kind, "innovative"
Powerful	"potent," "powerful," "strong"
Prevention	"prevents," offers "prevention of" condition
Reduced mortality	"prolongs life," "saves lives," "prevents death"
Symptom control	"controls" or "manages" symptoms, brings symptoms "under control"
Social-Psychological	Enhancements
Lifestyle	allows for a more "active," "regular," "normal," "free," or "flexible" life
Psychological	increases feelings of "confidence," "sureness," "happiness," "hope," "relieves fears"
Social	enhances the "attractiveness" or "appearance" of the user
Ease of Use	
Convenience	"convenient," "easy," "simple" to use: "infrequent" dosage or "short-term" use required
Easy on system	"gentle" on the user, "good tasting"
Economical	"economical," "cost-beneficial," or "saves money"
Quick acting	works "quickly," "fast," "rapidly," "speedily"
Safety	
Safe	"safe," leaves the system quickly, is a "reversible" treatment
Natural	works "naturally"; works like your own body does: made of natural agents
Nonaddictive	"non-habit-forming" or "non addictive"
Nonmedicated	does not make one feel "drowsy," "sleepy," "medicated," "drugged," or "spacey"

Figure 1. Bell et al.'s taxonomy of advertising appeals (2000)

Another influential content analysis study of DTC ads is that of Kelly Main, Jennifer Argo and Bruce Huhmann, who were interested in identifying the kind of information that are being provided to consumers in DTC ads (Main et al. 2004). Main et al. devised their own taxonomy of advertising appeals, which they used in studying 365 ads which appeared in the December issues of 1998, 1999 and 2000 in 30 US magazines. The taxonomy distinguished between rational appeals, positive emotional appeals and negative emotional appeals, and further distinguished

typically ran in the bottom third, and the largest type size of the text explaining the benefits was about twice as large as the largest text outlining side effects and risks.

between four main subtypes of positive emotional appeals: humor, nostalgic, fantasy and sex appeals (see Figure 2 below). A slightly modified version of this taxonomy has been also used by Dominick Frosch, Patrick Krueger, Robert Hornik, Peter Cronholm and Frances Barg from the University of California and the University of Pennsylvania, who examined how television DTC ads attempt to influence consumers (Frosch et al. 2007).

Content analysis coding categories	
Product category	What is the product category (prescription drug, OTC remedy, or dietary supplement)?
Types of appeals	Is there a rational appeal (e.g. product use, comparison, features, benefits, attributes, news, or statistics)?
	Is there a positive appeal (e.g. happy, warmth, pride, joy, caring, humour, sex, fantasy, or nostalgia)?
	Is there a humour appeal (e.g. puns or satire)?
	Is there a nostalgic appeal (e.g. images from earlier time periods, ad visual in black or white, or ad visual in sepia tone)?
	Is there a fantasy appeal (e.g. unrealistic or surreal)?
	Is there sex appeal (e.g. are the characters portrayed in an intimate encounter, scantly clad, wearing revealing clothing, or using provocative gestures)?
	Is there a negative appeal (e.g. fear, anger, regret, sadness, guilt, or shame)?
Characters	What is the gender of the model (male, female, or indeterminate)?
	What is the approximate age of the model (under 18 years of age, over 18 years of age or indeterminate)?
	What is the ethnicity of the model (Caucasian or a minority, such as African-American or Asian)?

Figure 2. Main et al.'s categories of coding (2004)

Another significant contribution to the study of DTC ads using the method of content analysis is the research conducted at by researchers at the institute of Communication and Health at the Università della svizzera italiana in Switzerland. Peter Schulz and Uwe Hartung developed a codebook for analyzing DTC ads, aiming to capture and assess relevant argumentative differences between patient-oriented and physician-oriented communication (unpublished manuscript). In particular, it was expected that variations will occur with respect to the use of medical evidence versus the emotional appeal. In order to capture and assess the expected argumentative differences, the researchers included in their corpus adverts that were directed to physicians. 120 print adverts regarding health conditions published between 2003 and 2006 in two U.S. magazines, namely *Time* and *Good Housekeeping*, as well as in two leading medical journals, New England Journal of Medicine and JAMA (Journal of American Medical Association), were collected. In their codebook, Schulz and Hartung suggest 8 categories of what they refer to as 'substance of premise'. The

categories are: medicament helps, medicament has no/low side effects, medicament is cheap, medicament is widely used, disease or condition against which the medicament is indicated is bad, medicament is widely studied, use-related premises and fringe benefits (see Figure 3 below).

39. Substance of premise (V39)
The Substance of the premise is that which is said to justify taking or prescribing a medicament. The categories ending with 0 are also residuals. That means: if a statement is that the medicament helps, but does not fit to any of the categories 11 through 13, it is coded as 10. If a single sentence or paragraph refers to two or more of the substance categories, two or more premises are coded.

10 Medicament help (also residual if 11–14 do not apply)
11 Medicament helps fast, effect sets on quickly
12 Medicament helps long, effect lasts for a long time
13 Medicament helps to a great extent, does away with ailments completely, in a comprehensive way, removes all ailments, all symptoms
14 Medicament has beneficial effects other than helping against the disease for which it is indicated and/or prescribed

20 Medicament has no/low side effects (also residual), is well tolerated, is safe to use
21 Side effects go away, or go away quickly
22 Side effects are harmless, mild, tolerable
23 Side effects are infrequent, will hit only few people
24 Particular side effects do not occur at all
25 No, infrequent, unharmful interaction with other medicaments
26 No potential for addiction

30 Medicament is cheap/its use is economic (seen in the cost-benefit-relation), has the same price as

40 Medicament is widely used, patient preferred (also residual)
41 Many people take it, any numeral mention that is apparently meant to suggest "many"
42 An increasing number of people take it
43 People switch to the drug advertised, have started to use it
44 Many doctors prescribe it
45 An increasing number of doctors prescribe it
46 Doctors switch to the drug advertised, have started to prescribe it

50 Disease or condition against which the medicament is indicated is bad, causes a lot of (unnecessary) suffering (also residual)
51 Disease means high risk for other and worse diseases, life-threatening diseases
52 Disease is incapacitating, interrupts normal life, make life more difficult, also because of heavy pain, limits activities
53 Disease is embarrassing
54 Disease is widespread, occurs often, many people have it

61 Medicament is widely studied, effects and side-effects are known, it is approved, e.g. by FDA, is clinically proven (ATTENTION: Premises that a medicament has been proven to be effective are usually coded as 10. Code as 61 only when the emphasis of the premise is on the fact that the medicament was tested scientifically, or when it is unspecified what was tested, effectiveness or side effects or interaction with other medicaments)
62 Medicament is the first of its kind
63 Medicament is the only one (relevant) in this field/ of its kind/to cure ailment X; the way it works is unique

70 Use-related premises: Medicament is easy to handle, easy to apply, convenient, does not create unpleasant sensations (also residual)
71 Medicament is easy to use, easy to apply; no special abilities needed to apply; precise dosing
72 No unpleasant taste or odor; agreeable for children (e.g. cherry chewable)
73 No harmful ingredients (other than the medical agents) such as alcohol
74 Easy schedule for taking, no temporal or situational (such as "with meals", "on an empty stomach") requirements for taking the medicament

80 Fringe benefits: Patient or doctor is promised other rewards if medicament is taken or prescribed (also residual)
81 Medical fringe benefits such as devices to cope with the disease information booklets, etc.
82 Financial fringe benefits, reimbursement, saving on large packages, special financial incentives. Free sample, free trials. Rebate certificates, save up, covered by health plans (ATTENTION: Premises that the medicament is inexpensive are coded as 30).
99 Other (note)

Figure 3. Schulz et al.'s coding categories of the substance of premises

3. Testing the generalizability of our claims on direct-to-consumer ads

What we would like to test, by using the method of content analysis, is whether the claim that DTC ads are addressed to an audience of consumers rather than an audience of patients applies in general to DTC ads and is not specific to the particular ads that we analyzed in our earlier study. In our earlier analysis, this conclusion was reached on

the basis of the central role that convenience appeals played in the ads analyzed. For example, in one of the ads, in which Takeda Pharmaceuticals promote their sleeping pills Rozerem, two out of the four main arguments that are used to support the claim that *Rozerem is a good treatment against insomnia* were convenience appeals. In the ad, Takeda Pharmaceuticals express this claim quite strongly. Rozerem is *a sleep aid like no other*, they claim (see Rezorem ad below).

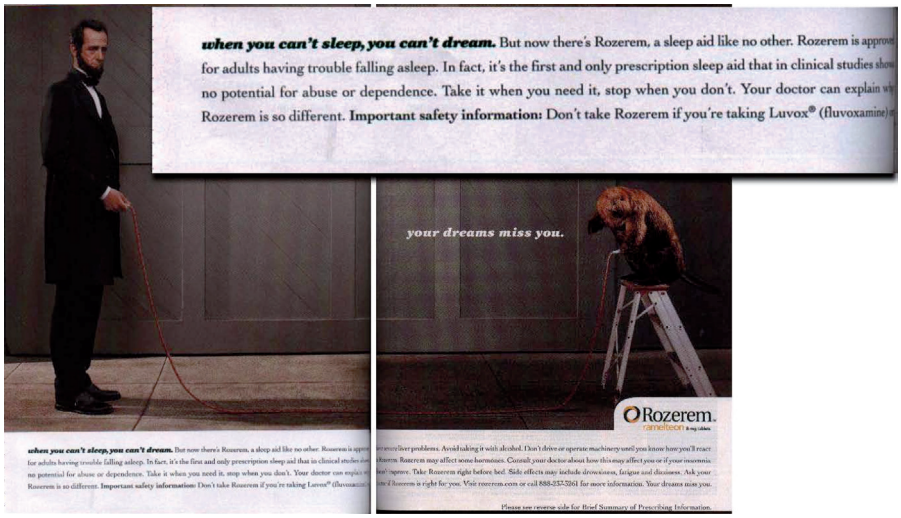

Figure 4. Rozerem: When you can't sleep, you can't dream (*Times*)

In support of this claim, four main arguments are presented: Rozerem is *approved* for adults having *trouble falling asleep (1.1a)*, Rozerem is *the first and only* prescription sleep aid that has *no potential for abuse or dependence (1.1b)*, you can *take Rozerem when you need it and stop when you don't (1.1c)* and Rozerem makes you dream *(1.1d)* which one can easily infer from the opening line of the ad, namely that *when you can't sleep, you can't dream*. Argument 1.1b is further supported by reference to clinical studies in which Rozerem shows no potential for abuse or dependence *(1.1b.1)*. The structure of argumentation is illustrated below.

1	Rozerem is a good treatment against insomnia
1.1a	Rozerem is approved for adults having trouble falling asleep
1.1b	Rozerem is the first and only prescription sleep aid that has no potential for abuse or dependence
1.1b.1	in clinical studies Rozerem shows no potential for abuse or dependence
1.1c	you can take Rozerem when you need it and stop when you don't
1.1d	Rozerem makes you dream

What coding variable can we use to reflect the central role that convenience appeals play in a DTC ad? One indicator of such a role is the number of such appeals in the ad. So, maybe even prior to the task of reflecting the central role of convenience appeals is the task of representing the presence of convenience appeals. Convenience appeals, as we used them in our earlier analysis, are arguments that promote the medicine on the basis of qualities that relate to its non-medical advantages. They are in this sense more general than the product attribute of convenience proposed by Bell et al. (2000). Unlike Bell et al.'s category, which refers solely to arguments in which claims about the medicine's convenience of use is made, our convenience appeals are a type of appeal that covers Bell's claims about convenience of use as well as other non-medical attributes, such as the medicine's cost, its enhancement of lifestyle and of the social and psychological being of those who take it ... etc. In this sense, our convenience appeals comprise Bell et al.'s both ease of use and social-psychological attributes (i.e. premises about psychological enhancement, lifestyle enhancement, social enhancement, convenience, quick acting, economical and easy on system). This type of appeals has also been represented in the codebook of Schulz and Hartung. A few of the coding categories for the variable 'substance of premise' represent what can be considered as a convenience appeal (for example: -11- Medicament helps fast, its effect sets on quickly, -30- Medicament is cheap / its use is economic, -70- Use-related premises such as Medicament is easy to handle, easy to apply, convenient or does not create unpleasant sensations, -71- Medicament is easy to use, easy to apply or that no special abilities are needed to apply it, -72- Medicament has no unpleasant taste or odor, is agreeable for children, -74- Medicament has an easy schedule for taking, or that it has no temporal or situational requirements).

In order to represent the presence of such appeals, a variable needs be designed that describes the type of appeal involved in the argument (a content variable at the premise level). For every premise, coders would have to choose between three main types of appeal: an effectiveness appeal when the premise refers to qualities that relate to the medical effect of the medicine: it controls symptoms, it is powerful, it is long lasting ... etc. a safety appeal when the premise refers to qualities that relate to the side effects of the medicine: it is natural, it does not have serious side effects ... etc. and a convenience appeal when the premise refers to qualities that relate to the non-medical advantages of the medicine, including the ease of use, economical benefits, quick acting, life style, and social-psychological enhancements ... etc. This proposal for a coding scheme is illustrated in *Figure 5* below.

The percentage of the number of convenience appeals in relation to the total number of appeals might be an indication of the importance of such appeals. However, this is not always the case. The argumentative role that such appeals play is an important

Substance of premise
The substance of the premise is that which is said to justify taking or prescribing a medicine. The categories ending with 0 are also residuals. That means: if a statement is that the medicine is convenient, but does not fit to any of the categories 31 through 37, it is coded as 30. If a single sentence or paragraph refers to two or more of the substance categories, two or more premises are coded.

10 Medicine is effective (when the premise refers to premise refers to qualities that relate to the medical effect of the medicine. Also residual if 11–15 do not apply)
11 Medicine controls symptoms
12 Medicine is powerful
13 Medicine is long lasting
14 …
15 …
20 Medicine is safe (when the premise refers to qualities that relate to the side effects of the medicine. Also residual if 21–25 do not apply)
21 Medicine is natural
22 Medicine does not have serious side effects
23 …
24 …
25 …
30 Medicine is convenient (when the premise refers to qualities that relate to the non-medical advantages of the medicine. Also residual if 31–37 do not apply)
31 Medicine is easy to use, is easy to handle, easy to apply, no schedule for taking … etc
32 Medicine dose not create unpleasant sensations, tastes good, no unpleasant odour … etc
33 Medicine is cheap, good value for money … etc
34 Medicine acts fast, effect sets on quickly … etc
35 Medicine allows for a more active, regular, normal, free, flexible life style … etc
36 Medicine increases feelings of confidence, sureness, happiness, hope, relative fears … etc
37 Medicine enhances attractiveness, appearance … etc

Figure 5. A proposal for a coding scheme

factor to consider, especially when ads employ a complex structure of argumentation.[6] For example, when ads employ argumentation in a subordinative structure, i.e. when some premises support the main claim indirectly by supporting other premises, the percentage of convenience appeals no longer reflects their argumentative importance. The Rozerem ad is an example. The ad includes five premises, one of which (*1.1b.1 in clinical studies Rozerem shows no potential for abuse or dependence*) supports the main claim about Rozerem by supporting the safety appeal (*1.1b Rozerem is the first and only prescription sleep aid that has no potential for abuse or dependence*). If one counts the total number of premises, one would think that 40% of the premises (two out of five premises) are convenience appeals, but once the argumentative role is considered one realizes that convenience appeals constitute 50% of the premises. Two out of the four lines of arguments are convenience appeals.

There seems to be a need to represent the argumentative role that a certain premise plays. One way of doing this would be to code premises into main and sub-arguments. While main arguments support the main claim directly, sub-arguments are elaborations that support other arguments and only through such a support lend support to the main claim. This coding variable, which we can call *premise role* or *argument*

6. We follow the distinction van Eemeren et al. (2002) make between a single structure of argumentation, in which a standpoint is supported by one single argument, and a complex structure of argumentation in which the standpoint is supported by more than one argument. A complex structure of argumentation can be either multiple argumentation, in which the standpoint is supported by more than one alternative defense, coordinative argumentation, in which the standpoint is defended by several arguments taken together, or subordinative argumentation, in which the standpoint is supported by arguments that are further supported by other arguments (2002, pp. 63–87).

structure would come prior to the coding variable *substance of premise* discussed earlier. Premises that are coded as main arguments would be further coded according to the variable premise substance discussed earlier, premises that are coded as sub-arguments need a different variable for coding. Something along the line of what Schulz and Hartung refer to as 'basis for premise', in which it is coded who or what is mentioned as the basis of the premise, what the premise rests on, what reasons are given for the premise (See Figure 6 below).

42. Basis of premise (V42)
It is coded here who or what is mentioned as the basis of the premise, what the premise rests on, what reasons are given for the premise.

1 Scientific study, research, clinical trials
2 Collective experience by medical personnel ("Doctors prescribe …")
3 Collective experience by patients, normal people
4 Individual testimonials by medical personnel (real or fictional)
5 Individual testimonials by celebrities (politicians, actors, etc.) who are medical laypersons
6 Individual testimonials by patients, normal people (real or invented)
7 Tradition
8 Testimonial by a newspaper (e.g. New York Times, NBC Nightly News, Dow Jones Newswires, etc.)
9 No basis given

Figure 6. Schulz et al.'s coding of the basis of premise

The coding categories used by Schulz and Hartung for the coding variable substance of premise would need to be divided into two coding variables: substance of main arguments and substance of sub-arguments. Variables such as -40- Medicament is widely used, patient preferred it would belong to the latter. This kind of argument is usually presented as a sub-argument in support of one of the main arguments.

4. Discussion

The biggest challenge for our proposal to distinguish between main and sub-arguments is to maintain high inter-coder reliability. This kind of reliability, which refers to the amount of agreement or correspondence among two or more coders, is crucial for the generalizability of our findings. Coding instructions should be clearly formulated to assist the coders in distinguishing between main and sub-arguments, a distinction that is not necessarily easy to make if the coders are not familiar with concepts of argumentation theory. Good inter-coder reliability can be achieved by

including indicators for subordinative argumentations as well as examples of this kind of argumentation structure in the coding instructions. Van Eemeren et al.'s *Argumentative Indicators in Discourse* (2007) can be a good source for such indicators.

Based on prior experience we suggest that coders should be first shortly trained in argumentation theory. In addition they would have to attend a supervised training session during which the coding norms of the codebook will be established. Coders should be retrained until they are confident that they understand the coding schemes and their agreement is acceptable. Reliability should be measured for each argument in the sample by Holsti's (1969) agreement formula.

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