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Maurizio Gotti, Stefania M. Maci, Michele Sala (eds)

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MARIANNA LYA ZUMMO

Credibility and Responsibility in User-generated Health Posts: Towards a Co-construction of Quality Knowledge?

In the context of the growing number of sites related to health issues and online conversation, statistical research tends to confirm that communication through health message boards has a significant role to play in the era of online counseling (Eysenbach/Diepgen 1999; Mulholland 1999; Anderson *et al.* 2003; Gooden/Winefield 2007; Kim/Yoon 2011). Previous studies have explored how people discussing health issues use health-related online communities or doctor-answer support facilities to access information and support. In fact, one of the main worries concerning these spaces has been the uncontrolled information that is provided by users with no defined roles and who do not/cannot take responsibility for what they say.

This research questions whether health forums may represent a new means of co-construction (Fage-Butler/Nisbeth Jensen 2013, 2014) and self-appropriation of (quality) knowledge based on credibility. Authentic examples from health forum boards are analysed by means of Discourse Analysis in order to understand how participants construct attitude and commitment toward advice, opinions and suggestions (Bybee et al. 1994; Van der Auwera/Plungian 1998; Nuyts 2001; Hyland 2002; Marín Arrese 2004; Cornillie 2009) and establish credibility. Finally, a survey is undertaken in order to understand whether this credibility works, and if so how it affects people’s beliefs and behaviour in relation to their health.

1. Health 2.0: A controversial resource

Health forums are public forums for asynchronous one-to-many dialogue, and they can be accessed whenever users choose to log on. In general, these pages are associated with what has been called Health 2.0, which concerns RSS Feed, podcasts, blogs, wikis, social networks (Facebook and Twitter among others) and online health communities. This participatory web phenomenon has emerged so quickly and widely that research has generally focused much more on various features, user responses, and design characteristics than on theoretical explanations for the causes and effects associated with their use. Broadly speaking, efficiency, effectiveness and enjoyment are the reasons why these websites are used. In particular, forum benefits include providing support, understanding, praise, and reinforcement as well as a place to find intervention options, negotiating plans, and/or general assistance.

Although it is unlikely to supplant the role of trusted healthcare-providers, the Internet has found an important place in people's repertory of health information sources. The Internet offers confidential and convenient access to an unprecedented level of information about a diverse range of subjects, and over time its perceived credibility has increased. Moreover, online health communication has the potential to reach large audiences, with the additional advantage that it is available at all times. It represents low cost and increased convenience for users as well as overcoming isolation of users and stigma reduction.

From a different perspective, pervasive Internet use makes alternative data collection methods feasible (e.g., online surveys), and information technology can be used to enhance health promotion programs and media campaigns (Bleakley et al. 2004). Initial studies show that up to 60% of adults with Internet access have searched for health or medical information (Brodie et al. 2000) and this percentage seems destined to rise (Timimi 2012). The Internet is definitely the new resource for health information and this is true for users of all different ages. Unsurprisingly, children and adolescents also use the

Internet as a resource for health information (Borzekowski/Rickert 2001), since the Internet enables users to explore topics (like sexual health) in a confidential and anonymous manner, which is an additional comfort for them. Basically information is obtained through doctor/patient facilities in health sites and health forums.

A doctor/patient exchange in Health 2.0 may be found on health-site sub-pages, which can be accessed by clicking the link on the side or top of the homepage. On these pages, users can ask a doctor for information about a specific health issue and get a personal response. Behind the label 'doctor', there is either an individual person with a medical training or a group of general practitioners/specialists, who run these pages and offer their help in response to users' posts. The net works as a source for a new medical support system, in which health-care professionals help with the translation of codified information, the validation of self-care practices and with biosocial symptoms. Doctors certainly still need to see and speak with the patient in order to diagnose or prescribe remedies, but the medical support is evolving into a different model on the net, represented by a mutually respectful one-to-many discourse.

The forum is a space in which users obtain medical information and clarify health doubts. It promotes discussion and encourages readers to participate in the process. Although every site has its own aesthetics, rules and codes, its content contains repeating specific communicative goals and discoursal resources. Forums provide advice, exempla (when presenting personal history to illustrate a point), interpretations (in the case of re-description of others' narratives, and possible (self-) diagnosis), recommendations and medical questions/requests for help. Participation varies between one-to-one, one-to-many and many-to-many structures, which are mostly public although there is a high degree of nicknames that guarantee anonymity. The number of active participants is lower than the number of people viewing the message (according to the number of visitors). Participant characteristics are not always identifiable, especially demographic data. People participating in these communities generally have very heterogeneous roles and statuses in real life, but it is very rare for participants to introduce themselves or talk about their job in real life, unless it is specifically asked or they need it to support their claim (“since I’m a nurse”, “I’m a registered nurse”). Even the purpose of the groups varies. Most participants tend to socialise when the goal of their interaction is seeking support, but when the goal is seeking information, they use the site in a very personal way, and once they have obtained it there is no further active participation. A friendly and cooperative tone is used in casual exchanges, but it becomes more serious when dealing with feelings or urgent health questions. In this way, the activity evolves from information exchange to problem solving, and it is regulated with norms established by moderators, who ensure language appropriateness and balance in participants’ behaviour. The language takes a dialogic form although the audience is unknown to the writer. Forums are always text-based but style is not affected by formality and editing.

Giving information is the primary activity of people who post messages within an online community. There are essentially two reasons for visiting healthcare forums. One of the main aims of these online health communities is to offer empathic support to patients. In his study of online groups dealing with disabilities, Finn (1999) divided posts into two domains: socio-emotional messages (including expression of feelings, provision of support, and friendship) and task-orientated messages (including requests for or provision of information, and problem solving). The research produced controversial results in terms of what is predominantly found (Braithwaite et al. 1999, for emotional support; Eysenbach/Diepgen 1999; LaCoursiere et al. 2005; Gooden/ Winefield 2007; Meier et al. 2007; Chung/Kim 2008; Kim/Yoon 2011, for health-related information and advice). Results for Computer Mediated Medical Communication (CMMC) reveal that participants give their personal opinions and advice on a wide variety of subjects regarding health issues, including the efficacy of medicines, statistics, experimental treatments, medical insurance, and research studies. Personal narratives are used as life exempla, to prove the efficacy of a treatment as well as to show sympathy by relating familiar experiences. Another common theme is searching for information on treatment options, clinical trials, side effects, alternative therapies, and other issue-related information. The other two most commonly occurring themes are patients offering messages of encouragement and emotional support, and patients expressing gratitude to the members of the community. In addition, there are also administrative posts and comments expressing anger and reproach toward other members. Most people who post messages are seeking Information (75.71% in Zummo 2014); only a few relate personal narratives (5.71%) or seek emotional support (2.86%) and only on rare occasions do they express gratitude (1.43%).

1.1. Bias and critics

In health forums people form support groups to share experiences and feelings, and they are able to recount their success stories and failures according to a ‘gather, share and learn’ paradigm. Knowledge communication is practiced in communities in which knowledge and experience are shared to create new knowledge (Wenger 1999). In forums, groups of users co-construct knowledge since individual members contribute to a specific subject matter. The collaborative process of health forums has several implications. Web authoring involves multiple identities (user/viewer/reader) which challenge the concept of authority and of expert-on-the-field. One of the main worries concerning these spaces has been the unmonitored information provided by users who do not have any medical training and do not/cannot take responsibility for the use of their posts.

Information is often communicated by laypersons rather than experts or professionals. These user-generated statements may offer new insights and supplementary information, but some of the sources may also be less reliable (Winter/Krämer 2012: 80). In addition, participants do not have any guarantee of the validity of those with whom they share information. Culver et al. (1997) examined an online bulletin board for people with painful hand and arm conditions. They found that there were messages on medical topics from people without any medical training, suggesting unconventional treatments and solutions.

Issues related to health care information systems include questions of ownership, integrity, availability, source control and errors/

omissions. As with some of the studies of online support groups, analysis of web pages raises significant questions about the relevance, coverage, and legitimacy of a lot of Internet health information (Rice/Katz 2001: 31). Concerns about the quality of the information include inexpensive and easy publishing, anonymity and speed since news breaks so quickly that publishers are less rigorous with their fact checking (Rice/Katz 2001: 57).

However, health forums are compiled and organized by active users, not passive ones, who are trying to contribute to their own health. Considering the credibility that is attributed to these forums, it is necessary to avoid any form of speculative interest, damaging behaviour or misleading information. In fact, critics question the quality of online health information, and its biomedical accuracy (Lewis 2006; Deshpande/Jadad 2009), and a sort of unease is expressed about the shift from a doctor-to-patient to a users-to-users framework, in terms of authorship of and responsibility for statements, since the Internet influences health beliefs and behaviour.

1.2. A different perspective: biomedical knowledge and experiential function

A different perspective is now emerging in the latest studies dealing with health posts. Indeed, research characterizes the online health-site as a Web 2.0-style popularization tool (Anesa/Fage-Butler 2014), in which the forum is a place of extensive sharing of biomedical knowledge reflecting the democratisation of expertise amongst e-patients (Fage-Butler/Nisbeth Jensen 2013). Even though avoiding medical terminology when communicating with patients has been recommended, in patient forums for various chronic illnesses, a widespread use of expert biomedical terminology and acronyms is found (Fage-Butler/Nisbeth Jensen 2013; Zummo 2014). The terminology is used without glossing, suggesting that in the context of forums, acronyms and specialist terms are not considered beyond other patients' grasp.

Furthermore, a study by Fage-Butler and Nisbeth Jensen (2013) on informational and relational aspects of patient-patient (p-p) communication illustrates how this communication has striking similarities with aspects of doctor-patient (d-p) communication as it includes the sharing of biomedical knowledge on diagnosis, managing illness and treatment. P-p communication also clearly comprises aspects that cannot be met in traditional d-p communication as it incorporates experiential knowledge, empathetic support drawing from common experience and ‘we-ness’ or group solidarity. In particular, a significant finding of their analysis is that respondents often possess considerable biomedical knowledge, which is acquired from sources such as doctors, other patients and journal articles, and which is evident in the way they use very specialised terminology and acronyms. They also found several examples where respondents adopt a role similar to that of the doctor in a clinical situation: they ask clarifying questions, request further information and suggest treatment. In doing so, users appear to abandon the traditional role of patient and adopt that of medical practitioner. Such statements however, are often modified by the use of disclaimers, which underline the respondents’ lay status. As suggested, “the patient forum facilitates the sharing of experiential knowledge, a function which is not fulfilled in clinical encounters where doctors lack the knowledge that is derived from having and experiencing the condition concerned” (Fage-Butler/Nisbeth Jensen 2013: 35), and “patients may be better historians of their illnesses and so their rich and accurate accounts of symptoms can make a difference to the quality of health care delivery” (Sarangi 2001: 5).

On the basis of these two different perspectives on the role of forums, this study investigates whether health posts can be associated with credibility and whether they co-construct knowledge that may be perceived as ‘quality’, at least in its practical use.

2. Material and theoretical references

Forums (migrainepage.forumotion.net; healingwell.com; healthcentral.com; forums.about.com) were selected in order of appearance on a common search engine and only those conceding permission to enter freely were used. The corpus for this study contains a total of 547 posts (total words: 83,423), which were selected from four threads. The threads were chosen on the basis of the total number of views/replies at the time of analysis. The initial threads and the corresponding replies were selected and analysed. The text analysed does not take into account user nicknames, date/time of logging, personal notes and text used as signatures, which were all removed. The language used in these forums is English and the sites are from English-speaking countries (Canada, the USA, the UK).

The simplicity of acquiring and publishing online information raises serious questions about users' ability to discern (credibility) and produce (responsibility) quality online information. This study examines two sources of credibility, namely the origin of the information and the way people express authority in their posts, which legitimize the participant in the role of respondent. Furthermore, in order to assess forum impact on readers, a survey on the use of health forums in a group of Italian people is examined. In order to study authority, the level of commitment is analysed. Following the study of this area, the dimension of epistemic modality (involving the writer in a marked commitment to the truth of the proposition), the evidentiary validity and in particular the degree of certainty, are analysed. Chafe (1986) identifies four areas within the evidential system: the reliability of information, the probability of its truth, the modes of knowledge, and the source, thus including epistemic modals as markers of judgments. Within the domain of judgements, Bybee et al. (1994) indicate markers of epistemic modality as concerned with the level of commitment by the speaker to the truth of the proposition. The degree to which the speaker has a commitment to the validity of the information as well as inferential or personal experiences classify different epistemological stance (Mushin 2001). These studies were among those which strongly contributed to the analysis of evidential and epistemic modal qualification, which foreground speaker's assessments and commitment to the truth of the utterance expressed. Following De Haan (2001), direct/indirect and first hand/second hand sources of information are detected.

The expression of authorial stance (the ways in which an author or speaker overtly expresses attitudes, feelings, judgements, or commitment, according to Biber/Finegan 1993) is studied on the basis of an analysis of pronominal self-reference items, adjectives and grading adverbs.

Finally, a small-scale survey of people in Italy aged 18-33, examining young adults' beliefs about the credibility of information available on Italian health forums and the reason why they choose to evaluate information as credible is presented. The survey involves 121 participants in an academic course, who have been considered to be representative of young adults between the ages of 18 and 33 years.

3. Assessing credibility

The aspect of knowledge and information diffusion offered by online health pages is of paramount importance to individuals who want to find possible reasons and solutions for their health issues. By reading patients' complaints about similar health issues, users gain reassurance and information that would otherwise be neglected without a face-to-face medical encounter. Therefore, posts are reading material for those searching for information concerning their health or caring for someone. It follows that users must learn to critically analyse and distinguish reliable information from chitchat, superstitions and home made diagnoses and remedies. On participatory websites such as blogs, forums, or wikis, one increasingly finds information that has been communicated by laypersons rather than experts or professional journalists.

Winter and Krämer (2012) investigate several factors that influence readers' selection of user-generated content on participatory websites, adapting research on persuasion. A two-sided summary, which indicates that both positions on a controversial issue are being considered, may appear more attractive to readers who are motivated to reach an informed position. This may be particularly true in the context of health-related topics, which are often characterized by conflicting positions. Readers may also be attracted to user-generated information based on other factors, such as the writer's source. The attributes of a message source are relevant when assessing the credibility of a post. In addition, posters' credibility, or the reputation of the writer, influence readers' beliefs and attitudes. These sources of credibility are the posters' legitimization of role, the way they express their posts and their source (mediated data).

3.1. Construction and legitimization of roles in online health communities

In d/p sites' framework, the interaction of net users (willing to show and tell their health issues) and doctors (with their sympathetic authority), as well as the silent readers (those who read the posts without actually participating in the discussion) have a relationship in which net users contribute to the formation of medical knowledge and forge a modern sense of appropriation of health information and of doctor/patient exchange.

In laymen-to-laymen forums, knowledge communication is practiced in communities in which knowledge and experience are shared to create new knowledge (Wenger 1999). Such digital environments allow people to play the roles of both information source and receiver, as they give, share and critique the content of forum posts. This game has profound implications for how people construct and evaluate credibility, in particular when it comes to their limited ability to discern quality information due to a stressed emotional state, which is often the background to an online health fact search. Users need to convince their readers that they not only have a right to contribute but also that their answers should be believed.

Credibility is based on what is relevant for an info-receiver, that is the importance of the information for a specific need. Quite often, relevant information is given by someone who is believed to be an expert, or who has assumed an air of authority. Authority relies on audience assessment and implies an expertise infused with experience and wisdom (Segal/Richardson 2003: 138). According to Fage-Butler and Nisbeth Jensen (2014), in online health forums p-p communication has striking similarities with aspects of d-p communication, as it includes the sharing of biomedical information on diagnosis, suggesting treatment action and giving treatment advice. In fact, forum respondents demonstrate considerable medical knowledge, which is evident as a result of their unexplained biomedical terminology. In a post, authentic use of medical slang and specialised language may be a good indicator of credibility. See for example:

(1) 1st User: [asks for some details]
2nd User: […] strong vasoconstrictors and not to anything that regulates neuronal excitability or neurotransmitters, they think nortriptyline worked only because serotonin is a vasoconstrictor […];
Moderator: Hi, Christine, and welcome! I don’t think there’s a whole lot I can add to Teri’s excellent post [...].

People rely on these forums because they tend to link the level of knowledge that is expressed in there to their credibility.

(2) My GP is looking into this and I’ve been searching the internet about it, but I haven’t really found anything yet. There are so many **knowledgeable** people here that I thought I’d ask and see if anyone knew.

In addition, people also take up position towards their utterances and in extreme case they even question doctors’ treatments:

(3) Macca, 100 mg a day was your starting dose? This was prescribed by a neurologist? Sorry, but that’s an extremely high for a starting dose. Not to play doctor, but the usual starting dose is 25 mg, to be increased in 25 mg increments every 1-2 weeks or even longer depending on patient tolerance. Going up to higher doses than that quicker than that has been associated with much more severe side-effects. I would seriously question your doctor on that dose, or get a 2nd opinion.

However, the study also illustrates that respondents use disclaimers which are expressed when acknowledging lay status and which, in a way, downgrade their position to semi-experts. However, if authority implies expertise *and* experience, the forum respondents may increase their credibility, since “patient-patient communication clearly comprises aspects that cannot be found in traditional doctor-patient communication, as it incorporates experiential knowledge, empathetic support drawn from common experience and 'we-ness' or group solidarity" (Fage-Butler/Nisbeth Jensen 2013: 35).

3.2. Responsibility in the communication of information

The legitimization of the role of the writer, when assessing credibility in a forum post, comes from their perceived expertise, which means the way they express certainty (and commitment) in their posts. The expression of authorial stance is studied on the basis of an analysis of pronominal self-reference items, adjectives and grading adverbs. Authorial stance is the author's point of view on the material to which they are referring (Hyland 2002). Biber and Finegan (1993) define it as the ways in which an author or speaker overtly expresses attitudes, feelings, judgements, or commitment. Assuming that the use of the first person pronoun expresses credibility (as a role marker of authorial presence and investment to personally get behind the statements) and helps the writer to establish commitment to their words, the frequency and role of first person pronouns *I* and *we* in their various forms (subject, object and possessive) are studied as role markers and authorial presence, together with adjectives and grading adverbs. Adjectives are used to express evaluation and grading adverbs are used with adjectives to show that something or someone has more or less of a quality. It is questioned whether or not writers take up positions about the information or evaluations provided in their posts. Writers point to the use of *I* as critical to meaning and credibility. The use of the personal pronoun also helps writers to establish a commitment to their words and to set up a relationship with their readers. The analysis on health forums revealed that writer visibility was mainly expressed by the first person singular pronoun (92.71%), in particular in its subject form (72.61%), possessive form (10.92%) and object form (9.18%). Writer visibility in exchanges is mostly concerned with the function of stating sympathy whereas functions related to the expression of commitment toward information have very low percentage values. The categorisation of discourse functions of personal pronouns in healthcare forum exchanges shows an increasing loss of authority expressed by the authorial presence. In other words, it seems that comment users adopt their own visibility for the purpose of sharing personal stories and show sympathy without using themselves as references to influence or persuade their readers. Despite a prominent tendency to create a relationship between reader and writer, writers generally do not construct a leading authorial visibility. It could be hypothesized that the writers of the posts choose not to adopt authorial stances because they are conscious of a lack of expertise and of a reluctance to commit themselves explicitly to their claims. On the other hand, it is true that elaborating a sentence without explicitly expressing the subject, increases the perception of the neutral objective truth of the utterance (Gotti 2011). Results suggest that users know the limitations of their own medical knowledge and may perceive the importance of their suggestions when offering help, limiting the expression of authorship and certainty, as in these comments:

(4) As for the meds and their side effects you’re experiencing, perhaps you might talk to your doctor about ramping the dose up a bit more slowly. I know **from my experience** with meds of all kinds that as I adjust to a med over time, then dose increases become a lot easier. [...] If I was in your place right now, that’s what I’d be asking my doctor to do.

(5) **This is just some information** you may wish to research further on your own and ask your gynecologist and/or migraine specialist more about. Every person is different, obviously, and you need to figure out what is best for you and your health with the advice of your doctors.

(6) I’d love to help you, **but it’s really not safe for any of us to answer this question for you.** Answering it safely requires knowledge of all medications you take, both prescription and over-the-counter, as well as your complete medical history. Please check with your doctor on this.

(7) All of this knowledge is, of course, important. It is, however, just as important to keep it all in perspective. **Thus, my post about side effects being POTENTIAL side effects**.

3.3 Source of information

To ascertain the type of source used by the addresser to assess the reliability of their utterance, evidentiality markers are used. Following Marín Arrese (2004), direct evidence (perceptual markers and beliefs) and indirect evidence (inference and reasoning) jointly express the speaker's commitment to the truth of the utterance, both cognitively and perceptually, since references to sources of information have been linked closely to references to reliability of knowledge (Dendale/ Tasmowski 2001) Evidentiality markers are considered to be 'perceptual' (expressed by verbs such as *hear, see*, etc.), when the utterer has direct sensory access to the truth, or information can be inferred, whereas markers are considered to be of a 'cognitive' nature when information is given by mental processes such as deduction, or is based on a cognitive source, a belief or general knowledge (expressed by verbs such as *assume*, *remember*, *know*). Another subdivision is provided by De Haan (2001), who puts forward the classifications of direct/indirect and first hand / second hand evidence, where indirect evidence incorporates that which is quoted, while inferential refers to personal but indirect access to information. Evidentiary validity and degree of certainty are two parameters to be analysed in order to find the dimension of author commitment to the validity of the information. Epistemic modality (Nuyts 2001) refers to the possibility or necessity of the truth of the utterance, and consequently indicates the speaker's degree of commitment to his/her proposition in relation to his/her knowledge or belief within a high degree of certainty (one possible conclusion to be drawn from facts), and a low degree of certainty (facts lead to speculation). Markers of possibility are found in utterances like: "All of the symptoms you have *could* be a migraine"; markers of certainty can be found in expressions such as: "I'd *definitely* suggest […]". The results indicate that users offer suggestions that are drawn from mental processes and general knowledge, as in the following examples:

(8) I actually read once that B vitamins should be taken as a balanced thing, so if you're taking one, you could balance it by taking a B-complex with it, so you get some of each.

(9) I assume there is a trigger in your food or combinations of food that combined with body rhythms trigger the migraines.

Very often mediated data is reported ("my doctor said/suggests/thinks"; "a study confirms/indicates" etc. with doctors, chiropractors and neurologists occurring 66.92%; unknown people, 21.80%, and anonymous friends 3%; studies or scientific articles, 8.27%). In some (rare) occasions, in fact, the members report information obtained by their own doctors for other users' specific health problem:

(10) User1: I've read somewhere that the hormones in birth control pills mimic early pregnancy hormones. Did anyone notice migraines worsening or improving in early pregnancy?

User2: Just FYI - I asked my neurologist about a hysterectomy with or without ovary removal [...]. He said that multiple studies show that while natural menopause can make migraines either better or worse (just like estrogen-containing birth control) surgical menopause in 99% of the cases makes migraines much, much worse.

As suggested by Fitneva (2001), cognitive resources cannot provide a solid certain background, so users tend towards a dimension based on possibility and probability. In this study, expressions of possibility (92.48 %) outweigh those of certainty (7.52%) both for verbal and non-verbal markers.

3.4. Use of health forums and negotiation of trust

Health forums are a particularly intriguing space to consider with regard to information and source credibility, for several reasons. Although net users may be comfortable with technology and good at using it, they may lack the tools and abilities needed to effectively evaluate medical information. Whether adults believe information they find online depends on the type of topic and the context. According to Metzeger/ Flanagin (2013), people use information processing strategies to evaluate information. Such strategies are 'analytic' (people analyse information carefully), 'heuristic' (they use a more intuitive approach), or 'social' (they ask their social circle for advice). Research indicates that as people engage more with the Internet, they develop a healthy scepticism. Websites have a powerful persuasive potential and can affect readers' attitude, since these posts influence the decision-making process. This section presents the findings of a small-scale survey of people in Italy aged 18-33 examining young adults' beliefs about the credibility of information available on Italian health forums, and the reason why they choose to evaluate information as credible.

The participation in the survey has involved a group of 121 young adults between the ages of 18 and 33. 75% of the respondents are female and 25% male. Their average age is 25, and they come from several different countries in Europe. First, they were asked what kind of activity they use the Internet for and what they expect to find. Respondents were on average more likely to use the Internet to chat or to search for information (see Table 1).

USE OF INTERNET		*EXPECTATION OF SEARCH RESULTS*	
Chat	22%	Info	82.6%
Learning Activities	17.7%	Support	9.3%
Social Networks	15.29%	Advice	5.3%
Shopping	11.62%	Treatments	1.3%
Watching/downloading	9.17%	Sharing emotions	1.3%
Reading	8.86%	Comments	0.2%
Socialising	7.64%		
Games	7.33%		
Administration	0.39%		

Table 1. Use of Internet and expectation of search results.

The next question was related to the use of health forums in particular and about credibility of information. Findings for the second research question indicate that 75% of respondents use health forums but, among them, only 14.95% think the information is believable. Among those who do not trust health forums, 10.8% say that the information is not credible but they use these sites as a source of information anyway (Table 2).

Use of health forum	Do I trust them?
Yes: 75%	Yes: 14,9%
No: 25%	No: 85,1%

Table 2. Use of health forums and credibility of information.

When asked why they do not trust information they find on health forums, 75% of young adults reported doubts about the source of the information (Table 3). It could be hypothesised that the recipients of these posts behave according to what the post expresses. In other words, as the analysis of these posts shows, the authorial presence is expressed only for support and is limited when expressing certainty and authority. Posts' writers are reluctant to commit themselves explicitly and there are no strategies to influence or persuade the reader. Mental processes and general background knowledge, as well as mediated data, do not constitute a solid certain background on which the information may be expressed. At the same time the dimension of possibility decreases authorship and credibility of information. Thus, it comes as no surprise that young adults report doubts about the source of the information. The last question was related to the effects of reading health forums. Results indicate that people mostly feel scared by what they read but also get advice, support and second opinions about their questions (Table 3).

Reason of mistrust		*Effects of health forums use*	
Source	76%	Fear	23.4%
Individuality of diagnosis	7%	Advice	21.28%
F2f	6%	Support	21.28%

Source	5%	Second opinion	19,15%
Anonymity	5%	Homemade remedies	8.51%
Too much info	1%	Alarm	4.25%
		Solution	2.13%

Table 3. Reason for mistrust and effects of health forums use.

The findings on the percentage of use are controversial if compared to the tendency and the statistics reported in the introduction to this study. Indeed, although 75% of participants use health forums, only 15% of them think the information is believable. These data confirm that "as people engage more with the Internet, they develop a healthy scepticism" (Metzger/Flanagin 2013: 160). To validate this, when people were asked why they do not trust information they find on health forums, 75% of young adults reported doubts about the source of the information. It follows that the Italian readership is fully aware of the danger of online information and is concerned with credibility issues. On the other hand, findings suggest that people gather data not only from their own database but also from their online environment.

4. Final considerations

The Internet offers confidential and convenient access to an unprecedented level of information about a diverse range of subjects, and over time it has increased its perceived credibility. However, analysis of web pages raises significant questions about the relevance, coverage, and legitimacy of a lot of Internet health information (Rice/ Katz 2001: 31). Although content providers are expected to take steps to help control the most extreme content (Williams/Calow/Lee 2011), user agreements in the form of 'terms of use' are treated as membership contracts and in fact only protect one side's rights, without assuming any responsibility for the content, for which the users assume all the risk (Sözeri 2013). In healthcare environments, there is also concern that anonymity makes people likely to engage in antisocial behaviour and may promote misinformation and advice that runs contrary to clinical research. As suggested by Metzger and Flanagin (2013), the vast amount of information available online makes the origin of information, its quality, and its veracity less clear than ever before, shifting the burden on individual users to assess the credibility of information. For information to turn into knowledge the content must be transmitted properly and the source must be credible. Information must be differentiated into non-usable data and correct data, categorized and stored so that it can be transferred at a later date. In a time continuum that goes from temporary to permanent, information is positioned on the temporary side, whereas knowledge is situated on the verge of permanent. Health 2.0 is considered a controversial resource because it not only constitutes the first easy access to medical information but it stores information that if transmitted properly and trusted may be construed as knowledge that is accessible every time it is needed without a proper information background. Participating websites have a powerful persuasive potential and can affect readers' attitude. As Harvey and Koteyko (2013) have pointed out, the more active role of cyber-surfing patients introduces new challenges in terms of credibility. Despite their ignorance of the exact meanings of words, laypersons can 'borrow' concepts from experts to sound more credible. Ignorance of the exact meanings of words does not necessarily prevent a successful plausible account of what is being discussed. Thus, laypersons' talk about issues of which they have very limited knowledge may have dramatic consequences if it affects readers' beliefs. Users engaged in online exchanges have to rely solely on words, which provide them with information and establish the relationship. On the other hand, research has shown that the degree to which adults believe information they find online varies according to the type or topic of information which they are searching for, and that assessments of credibility are related to the context in which the information is found (Flanagin/Metzger 2007; Hargittai et al. 2010). For example, people are less likely to find commercial information or information from special interest groups to be credible, probably because they recognize that these sources have a strong potential for bias (Flanagin/Metzger 2007). Research indicates that as people engage more, and more deeply, with the Internet, they may develop a healthy scepticism toward the believability of online information (Metzger/Flanagin 2013). In addition, Internet users know how to differentiate between the types of people they encounter online, even though those people are represented online by text (Lea/Spears 1992; Walther/Jang 2012). Today, websites offer a better opportunity to improve knowledge and enable a conscious use of the medium by users. Forums represent p-p health communication, which increases patient awareness of their condition and the sense of together-ness of a group. According to Fage-Butler and Nisbeth Jensen (2013), many posts have disclaimers, which underline that the advice given should not be deemed to be expert, and recommend that website users "see a qualified doctor before acting on any of the information on the forum" (2013: 27). Although previous studies show that the reader will change behaviour according to what is suggested online, it seems that a negotiation of trust is at play. In fact, a small-scale survey of Italian people aged 18-33 shows young adults' beliefs about the credibility of information available on Italian health forums and the reason why they choose to evaluate information as credible. Findings report that although 75% of participants use health forums, only 14.9% of them think information is believable, confirming scepticism towards online environments, in particular with regard to sources. It follows that the Italian readership is fully aware of the danger of online information and is concerned with credibility issues.

References

Anesa, Patrizia / Fage-Butler, Antoinette M. 2014. Popularizing Biomedical Information on an Online Health Forum. *Paper presented at the Cerlis2014 International Conference.* Abstract retrieved from <http://dinamico.unibg.it/cerlis/public/CERLIS%202014_ book%20of%20abstracts%20web.pdf>.

Anderson, James G. / Rainey, Michelle R. / Eysembach, Gunther 2003. The Impact of CyberHealthcare on the Doctor-Patient Relationship. *Journal of Medical Systems* 27/1, 67-84.

Biber, Douglas / Finegan, Edward 1993. Styles of Stance in English: Lexical and Grammatical Marking of Evidentiality and Affect. *Text* 9/1, 124-148.

Bleakley Amy / Merzel Cheryl / VanDevanter Nancy / Messeri, Peter 2004. Computer Access and Internet Use Among Urban Youths. *American Journal Public Health* 94/5, 744-746.

Borzekowski, Dina / Rickert, Vaughn 2001. Adolescent Cybersurfing for Health Information: a New Resource that Crosses Barriers. *Archives Pediatrics Adolescent Medicine* 155, 813-817.

Braithwaite, Dawn / Waldron, Vincent / Finn, Judith 1999. Communication of Social Support in Computer-mediated Groups for People with Disabilities. *Health Communication* 11/2, 123-151.

Brodie, Mollyann / Flournoy, Rebecca / Altman, Drew / Blendon, Robert /Rosenbaum, Marcus 2000. Health Information, the Internet, and the Digital Divide. *Health Affairs* 19, 255-265.

Bybee, Joan / Perkins, Revere / Pagliuca William 1994. *The Evolution of Grammar: Tense, Aspect, and Modality in the Languages of the World.* Chicago: The University of Chicago Press.

Chafe, Wallace 1986. Evidentiality in English Conversation and Academic Writing. In Chafe, Wallace / Nichols, Johanna (eds) *Evidentiality: The Linguistic Coding of Epistemology,* Norwood, NJ: Ablex, 261-272.

Chung, Deborah Sujing / Sujing, Kim, 2008. Blogging Activity among Cancer Patients and their Companions: Uses, Gratifications, and Predictors of Outcomes. *Journal of the*

American Society for Information Science and Technology 59/2, 297-306.

Cornillie Bert 2009. Evidentiality and Epistemic Modality: On the Close Relationship of two Different Categories. *Functions of Language* 16/1, 44-32.

Culver, Jean / Gerr, Fredric / Frumkin, Howard 1997. Medical Information on the Internet: A Study of an Electronic Bulletin Board. *Journal of General Internal Medicine* 12/8, 466-470.

Dendale, Patrick / Tasmowski, Liliane 2001. Introduction: Evidentiality and Related Notions. *Journal of Pragmatics* 33, 339-348.

De Haan, Ferdinand 2001. The Relation between Modality and Evidentiality. In Müller, Reimar / Reis, Marga (eds) *Modalität und Modalverben im Deutschen*. Linguistische Berichte, Sonderheft 9. Hamburg: H. Buske. <http://www.u.arizona.edu/ ~fdehaan/ papers/lb01.pdf>.

Deshpande, Amol /Jadad, Alejandro 2009. Trying to Measure the Quality of Health Information on the Internet: Is It Time to Move On? *Journal of Rheumatoly* 36, 1-3.

Eysenbach, Gunther / Diepgen, Thomas L. 1999. Patients Looking for Information on the Internet and Seeking Teleadvice: Motivation, Expectations, and Misconceptions as Expressed in E-mails Sent to Physicians. *Archives of Dermatology* 135/2, 151-156.

Fage-Butler, Antoinette M. / Nisbeth Jensen, Matilde 2013. The Interpersonal Dimension of Online Patient Forums: How Patients Manage Informational and Relational Aspects in Response to Posted Questions. *Hermes – Journal of Language and Communication in Business* 51, 21-38.

Fage-Butler, Antoinette M. / Nisbeth Jensen, Matilde 2014. 'I bet if your FT-4 went up a bit your TSH would drop': Medical Terminology in Patient-Patient Communication". Paper presented at the Cerlis 2014 International Conference. Abstract retrieved from <http://dinamico.unibg.it/cerlis/public/CERLIS%202 014_ book%20of%20abstracts%20web.pdf>.

Finn, Judith 1999. An Exploration of Helping Processes in an Online Self-help Group Focusing on Issues of Disability. *Health and Social Work* 24, 220-232.

Fitneva, Stanka A. 2001. Epistemic Marking and Reliability Judgements: Evidence from Bulgarian. *Journal of Pragmatics* 33, 401-420.

Flanagin Andrew / Metzger Miriam 2007. The Role of Site Features, User Attributes, and Information Verification Behaviors on the Perceived Credibility of Web-based Information. *New Media & Society* 9/2, 319-342.

Gooden, Rebecca / Winefield Helen R. 2007. Breast and Prostate Cancer Online Discussion Boards – A Thematic Analysis of Gender Differences and Similarities. *Journal of Health Psychology* 12/1, 103-114.

Gotti, Maurizio ^{3}2011 *Investigating Specialized Discourse*. Bern: Peter Lang.

Hargittai, Eszter / Fullerton, Lindsay / Menchen-Trevino, Ericka / Thomas, Kristin 2010. Trust Online: Young adults' Evaluation of Web Content. *International Journal of Communication* 4, 468-494.

Harvey, Kevin / Koteyko, Neila 2013. *Exploring Health Communication: Language in Action*. London: Routledge.

Hyland, Ken 2002. Authority and Invisibility: Authorial Identity in Academic Writing. *Journal of Pragmatics* 34, 1091-1112.

Kim, Soojung / Yoon, Jongwon 2011. The Use of an Online Forum for Health Information by Married Korean Women in the U.S. *Information Research* 17/2, paper 514. Available at <http://Informa tionR.net/ir/17-2/paper513.html>.

LaCoursiere, Sheryl / Knobf, M. Tish / McCorkle, Ruth 2005. Cancer Patients' Self-reported Attitudes about the Internet . *Journal Of Medical Internet Research*, 7/3, e22. Available at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1550663/>.

Lea, Martin / Spears, Russell 1992. Paralanguage and Social Perception in Computer-mediated Communication. *Journal of Organizational Computing* 2, 321-342.

Lewis, Tania 2006. Seeking Health Information on the Internet: Lifestyle Choice or Bad Attack of Cyberchondria? *Media, Culture & Society* 28, 521-539.

Marín Arrese, Juana 2004. Evidential and Epistemic Qualifications in the Discourse of Fact and Opinion: a Comparable Corpus Study. In Marín Arrese Juana (ed.) *Perspectives on Evidentiality and Modality* , Madrid: Editorial Complutense, 153-184.

Meier, Andrea/ Lyons, Elizabeth / Frydman, Gilles / Forlenza, Michael / Rimer, Barbara 2007. How Cancer Survivors Provide Support on Cancer-related Internet Mailing lLsts. *Journal of Medical Internet Research*, 9/2, e12. Available at <http://www.ncbi.nlm. nih.gov/pmc/articles/PMC1874721/>, doi: 10.2196/jmir.9.2.e12.

Metzger, Miriam / Flanagin, Andrew J. 2013, The Special Case of Youth and Digital Information Credibility. In Folk Moe and Shawn Apostel (eds) *Online Credibility and Digital Ethos: Evaluating Computer-Mediated Communication,* IG Global: Hershey, 148-168.

Mulholland, Joan 1999. E-mail: Uses, Issues and Problems in an Institutional Setting. In Bargiela-Chiappini, Francesca / Nickerson, Catherine (eds) *Writing Business*. London: Longman, 57-84.

Mushin, Ilana 2001. *Evidentiality and Epistemological Stance. Narrative Retelling.* Amsterdam: John Benjamin.

Nuyts Jan 2001. *Epistemic Modality, Language, and Conceptualization: a Cognitive-pragmatic Perspective.* Amsterdam: John Benjamin.

Rice, Ronald E. / Katz, James 2001. *The Internet and Health Communication. Experience and expectations.* Thousand Oaks: Sage.

Sarangi, Srikant 2001. Editorial: On Demarcating the Space between ‘Lay Expertise’ and ‘Expert Laity’. *Text – Interdisciplinary Journal for the Study of Discourse* 21, 3-11.

Segal, Judy / Richardson, Alan 2003. Introduction. Scientific Ethos: Authority, Authorship, and Trust in the Sciences. *Configurations* 11/2, 137-144.

Sözeri, Ceren 2013. Ethical Challenges for User-Generated Content Publishing: Comparing Public Service Media and Commercial

Media. In Folk Moe / Shawn Apostel (eds) *Online Credibility and Digital Ethos: Evaluating Computer-Mediated Communication.* IG Global: Hershey, 302-315.

Timimi, Farris K. 2012. Medicine, Morality and Health Care Social Media. *BMC Medicine* 10, 83.

Van der Auwera, Johan / Plungian, Vladimir 1998. Modality's Semantic Map. *Linguistic Typolology* 2, 79-124.

Walther, Joseph / Jang, Jeong-woo 2012. Communication Processes in Participatory Websites. *Journal of Computer-Mediated Communication* 18, 2-15.

Wenger, Etienne 1999. Communities of Practice: The key to a Knowledge Strategy. *Knowledge Directions* 1, 2-10.

Williams, Alan / Calow, Duncan / Lee, Andrew 2011. *Digital Media Contracts.* Oxford: Oxford Univerity Press.

Winter, Stephan / Krämer, Nicole 2012. Selecting Science Information in Web 2.0: How Source Cues, Message Sidedness, and Need for Cognition Influence Users' Exposure to Blog Posts. *Journal of Computer-Mediated Communication* 18, 80-96.

Zummo, Marianna L. 2014. The Web Participatory Environment: A New Genre in Health Exchange. In Chiavetta, Eleonora / Sciarrino, Silvana / Williams, Christopher (eds) *Popularization and the Media*, Bari: Edipuglia, 99-115.