1 Introduction

Medicine is an applied science and is not always exact. In this context, an ongoing challenge for health professionals is to identify the most appropriate language through which to deliver medical information to a public with varying needs. The core element of health consultation is effective communication between health professionals and their patients (Adolphs et al., 2007; Ainsworth-Vaughn, 1998; Heath, 1986). For example, communication in the health context should enable the delivery of clear and accurate information while also accommodating patients' emotional needs. Doctors are aware of the significant role language plays in this setting, where, for example, using metaphors to refer to cancer (among other illnesses) can help to build rapport between health professionals and their patients (Ordóñez-López and Edo-Marzá, 2016). Elastic language (EL), equipped with its characteristic fluidity, helps to address challenges around health communication (Zhang, 2015). For example, in the statement, 'After the thyroid operation, there may be a need to take some thyroxine', the elastic words 'may' and 'some' are suggestive rather than prescriptive. There is little research on the elasticity of language in health communication, particularly from a cross-cultural perspective. Based on two corpora collected in Taiwan and Australia, the current study is one of few attempts to investigate the information-understanding abilities and preference of the public for EL or non-EL with the aim of determining the effectiveness of medical information disseminated online.

The objective of this study is to illustrate that using EL is integral to effectively imparting medical advice to patients (Adolphs et al., 2007). Having the ability to use EL is an important skill which allows language users to tailor their language to suit the communicative needs of their listeners (Carter and McCarthy, 2006; Channell, 1994; Ediger, 1995). When doctors deliver potentially distressing news to their patients, choosing between a 'tell-it-as-it-is' or a mitigated expression may influence how well the patient copes and cooperates with doctors, and consequently, may affect the success of their medical treatment. Institutional requirements invariably put grey health communication into a black or white box, which may need to be re-evaluated to integrate both precision and imprecision and to strike

a balance between straight and mitigated talk. (Adolphs et al., 2007). Precise language cannot replace EL, as EL can function in ways which precise language cannot. Specifically, using EL as opposed to precise language makes it possible to present difficult or sensitive information in an empathetic manner.

Based on online medical data, this study explores how uncertainty is manifested in EL. Uncertainty comes from the limits of medical knowledge itself, as well as from the limits of our own knowledge. Such feelings lead people to consult the Internet to reduce their uncertainty regarding various health matters (Neely, 2014). Put more simply, when people face uncertainty, they may go online to seek information (Bylund et al., 2012; Koehly et al., 2009). This may take the form of gaining knowledge, becoming more educated about risk, receiving professional and emotional support, finding assurance or assisting with decision-making. According to Corrales et al. (2018), approximately half of the gynaecologic-oncology patients in their study consulted the Internet to obtain information about their conditions. But users may not always benefit from seeking information in this way. For example, some people 'may be motivated by inherent personality traits or tendency towards "health anxiety", and unclear or unreliable information may in fact push their anxiety level even higher' (2018: 302). While the Internet is a popular source of health advice for the public (Walther et al., 2018: 57), people may lack the necessary knowledge and skills to assess the credibility of a website's content (Mashiach et al., 2002). One study of online search for health advice for children found that 11% of search results did not give correct information and 49% did not answer the question or gave responses that were unrelated to the question (Davies et al., 2010). Prolific information on the Internet regarding diseases, symptoms, prognoses, treatments and risks may exacerbate readers' anxiety (Miller, 1987; Miller and Mangan, 1983); thus, providers of medical information online need to know how best to effectively present information. Accordingly, there is a need to research language use in online medical information to improve the public's experience of it. This study investigates how EL is perceived and whether it is preferred among online users, which will help to contribute to the successful communication of online medical information.

This study provides an account of how EL works in medical online communication, and its relationship to shared versus culture-specific features in Chinese and English. Several useful studies have been conducted on imprecision in medical language based on spoken data (Adolphs et al., 2007; Ordóñez-López and Edo-Marzá, 2016; Staples, 2015). The current study differs in that it is based on written and online medical data – that is, medical information on various diseases/conditions collected from online professional websites, including medical professional and government agencies in Australia and Taiwan (approximately a quarter of million words each for Chinese and English – half a million in total).

1.1 Definitions

Let us first look at an example. The following is an excerpt from a conversation at a banking royal commission hearing into misconduct in banking. The two interactants, the Commissioner and Commonwealth Bank of Australia (CBA) Boss, were talking about mortgage brokers receiving ongoing commission despite providing no ongoing financial advice.

COMMISSIONER: Are there any ongoing services supplied by a mortgage broker, Mr. Comyn?
CBA Boss: I think they would be **limited**, Commissioner [audience laughs].
COMMISSIONER: Well . . . uh . . . limited or none.
CBA Boss: **Much closer to none** [smiles; audience laughs].
COMMISSIONER: I take that as none [smiles; audience laughs].

(Source: Channel 7 Australia 6pm News, November 19, 2018)

Here the words *limited* and *much closer to none* are EL as they are used to avoid giving a definitive answer. The unfolding of the conversation shows that the speaker knows it, the Commissioner knows it, and the listeners know it too. Mr Comyn attempts to mitigate at the start, but the Commissioner points out that the correct answer should be *none* rather than *limited* or *much closer to none*. The audience laugh at every turn in speech during the conversation, suggesting they are aware of what is going on.

The term 'elastic language' is used as a metaphor to describe the ways in which we adjust and modify our utterances to accommodate communicative needs (Zhang, 2011, 2015). According to Zhang (2011, 2015), EL contains a degree of elasticity, which is inherent and unresolvable even with the help of context (fluidity principle); it can be stretched in various directions (stretchability principle); and it can stretch functions to serve communicative needs (strategy principle). In the current study, EL refers to the fluidity, stretchability and strategy of medical communication.

The concept of EL corresponds to elastic (both/and), rather than dichotomous (either/or), thinking. This is because while dichotomous thinking limits us in understanding complex and dynamic phenomena, elastic thinking enables us to deal with complementary, gradual and interdependent phenomena (Munné, 2013). The successful use of elasticity in language appears to result in a high level of interactivity in conversation (Cheng, 2007). Thus, appropriate use of EL is necessary for us to manage the complexity of effective communication.

Haugh and Culpeper (2018) highlight the importance of involving both writer (speaker) and reader (listener) in linguistic research. They argue that 'to analyse pragmatic phenomena, we must go beyond analysing the locally situated understandings of users and embrace observers' understandings' (2018: 235). In this study, both the information provider and the information

observer of online medical information are studied to provide a rigorous account of online medical communication through the lens of EL use.

1.2 Purposes of This Study

Whilst the existing literature has shed a useful light on vague language (VL; Channell, 1994; Cutting, 2007; Ruzaitė, 2007), hedging (Hyland, 1998a, 1998b), and imprecision in medical language (Adolphs et al., 2007; Ordóñez-López and Edo-Marzá, 2016; Tseng and Zhang, 2018), there is limited research on the elasticity of language used in healthcare communication, especially from a cross-cultural perspective.[1] The current study attempts to address this gap by focusing on the 'harmony' and 'misfire' (Mey, 2016b: 136) between information on professional medical websites and the potential readers of those sites. Specifically, this study investigates the effectiveness of EL use in healthcare communication based on corpora of online medical information collected in Australia and Taiwan.

There are two major sources of information for the study: language used by the writers of medical websites and feedback (through questionnaires and follow-up interviews) on the language used by participants in this study. By including both the information giver and receiver in the research design, the study provides a rigorous account of how EL is both used and perceived. An investigation into the perceptions of and attitudes around EL among information receivers represents uncharted territory in the existing literature.

Therefore, the four research questions underpinning the study are as follows:

1. What are the pragmatic forms and frequencies of EL?
2. How do these forms perform their pragmatic functions?
3. Are there any protocols concerning EL use? If so, what are they?
4. What are the impacts of context on the use of EL?

The first two questions seek to uncover the pragmatic forms and functions of EL in online healthcare communication and lay the foundation for the last two questions, which reveal patterns of EL and the role of context. Question 3 can be manifested through the perceptions and attitudes of language users (observers) towards the use of language (Haugh and Culpeper, 2018), as the notion of protocols may be used to explain why some interactions are better received than others (Tseng and Zhang, 2018: 42). These protocols may legitimise and guide the use of EL in communication. Question 4 examines the variability of EL behaviours in terms of different contextual conditions (e.g., six diseases) and language/culture (Chinese versus Australian). Hall

[1] The terms 'EL' and 'VL' are used interchangeably in this study.

(1976) points out that Asians are considered to take a less direct approach in communication compared with those from Europeanised cultures. Whether or not this view is exemplified in our data will be explored.

The first two questions uncover the linguistic features of EL, and the last two reveal any (dis)harmony involving the use of EL in medical communication, in turn indicating how such disharmony might be remedied in different cultures according to participants' feedback. By situating research on EL firmly in the health context, we seek to reveal whether medical information is successfully conveyed and what role EL plays in the process. These findings may help to enhance the effectiveness of online healthcare advice and enable better Internet conversations between healthcare professionals and the public.

1.3 Concluding Remarks

The dilemma addressed by the current study is as follows: online medical information providers are required to explain medical issues in a direct way, but, at the same time, they need to ensure their readers can bear their straight talk. On a scale with directness at one end and indirectness at the other, it is difficult to know how much (or how little) to divulge to readers. This project intends to highlight the importance of elastic communication to reveal how EL can both meet institutional needs and match the level of a reader's knowledge and their mental resilience.

Online medical information needs to strike a balance between accuracy and elasticity, a conundrum which this study aims to clarify. Increasingly, the public seek to reduce their uncertainty about various risks through consulting the Internet as an important source of information (Neely, 2014). This is because online medical information involves no cost, no waiting time, no probing, no embarrassment and no need to explain one's circumstances in detail. This study provides timely evidence of how the public view online information in terms of effectiveness.

Medical diagnoses and prognoses are often not clear-cut. Conveying these kinds of vague phenomena is a challenge to health professionals but also a skill they must master. This study analyses real-life medical data to generate communicative patterns and verified strategies that shape the ways in which professionals communicate uncertainty. The resulting findings may help healthcare professionals to deliver medical information in ways that are more accessible to the public.

Elasticity plays an integral part in effectively imparting medical advice to patients in a way that affirms their choices. This study is the first to explore communication effectiveness in healthcare, paying special attention to the role of elasticity in language use and how it performs in an Australia–Taiwan comparison. This research adds a new dimension to the study of health

communication and explores better ways to deliver medical information to the public by challenging linear theories in linguistics and promoting non-linear concepts. Language cannot be totally held to a 'correct' standard nor used just as one wishes. A 'one-size-fits-all' approach for language use does not exist; rather, multiple standards guide our use of it.